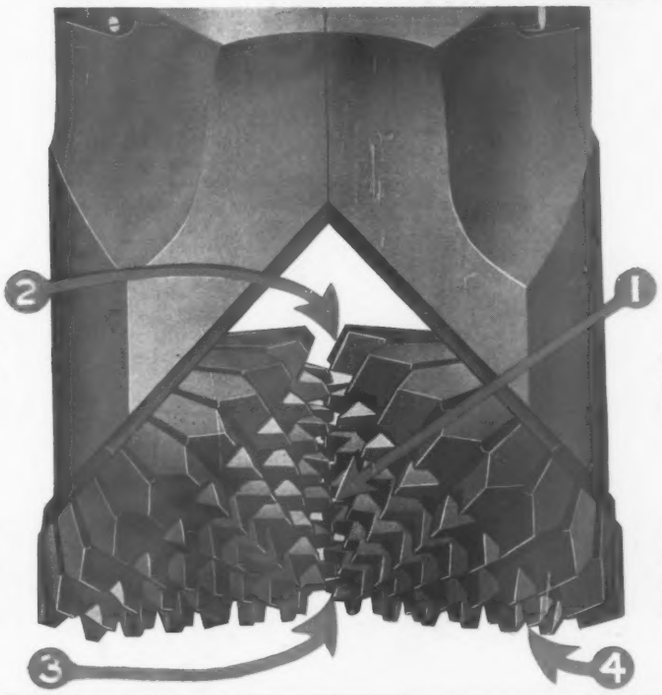
The OIL WEEKLY

10¢ A COPY

Exclusively Devoted To The Production and Transportation of Oil and Gas

December 23, 1927 **Volume 48. No. 1**

NOTICE



Bevel on large diameter of cone covered by Hughes Tool Company Patent 1,325,944.

Arrangement of teeth to interfit covered by Hughes Tool Company Patent 1,480,014.

Staggered position of rows of teeth covered by Hughes Tool Company Patent 1,480,014.

Chisel shape teeth covered by Hughes Tool Company Patent 1,647,753.

The Ball bearing type of cone was invented and patented by Howard R. Hughes nearly twenty years ago

Cones embodying above patented features are being offered for sale, thereby infringing patents noted above. Suit is now pending in the Federal Court to prevent infringement, and other suits will be instituted, if necessary, and all will be vigorously prosecuted.

HUGHES TOOL COMPANY

Service Plants
Los Angeles, California
Oklahoma City, Okla.

Main Office and Plant
HOUSTON
TEXAS

Export Office
Woolworth Bldg.,
New York City, N. Y.

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SAFETY

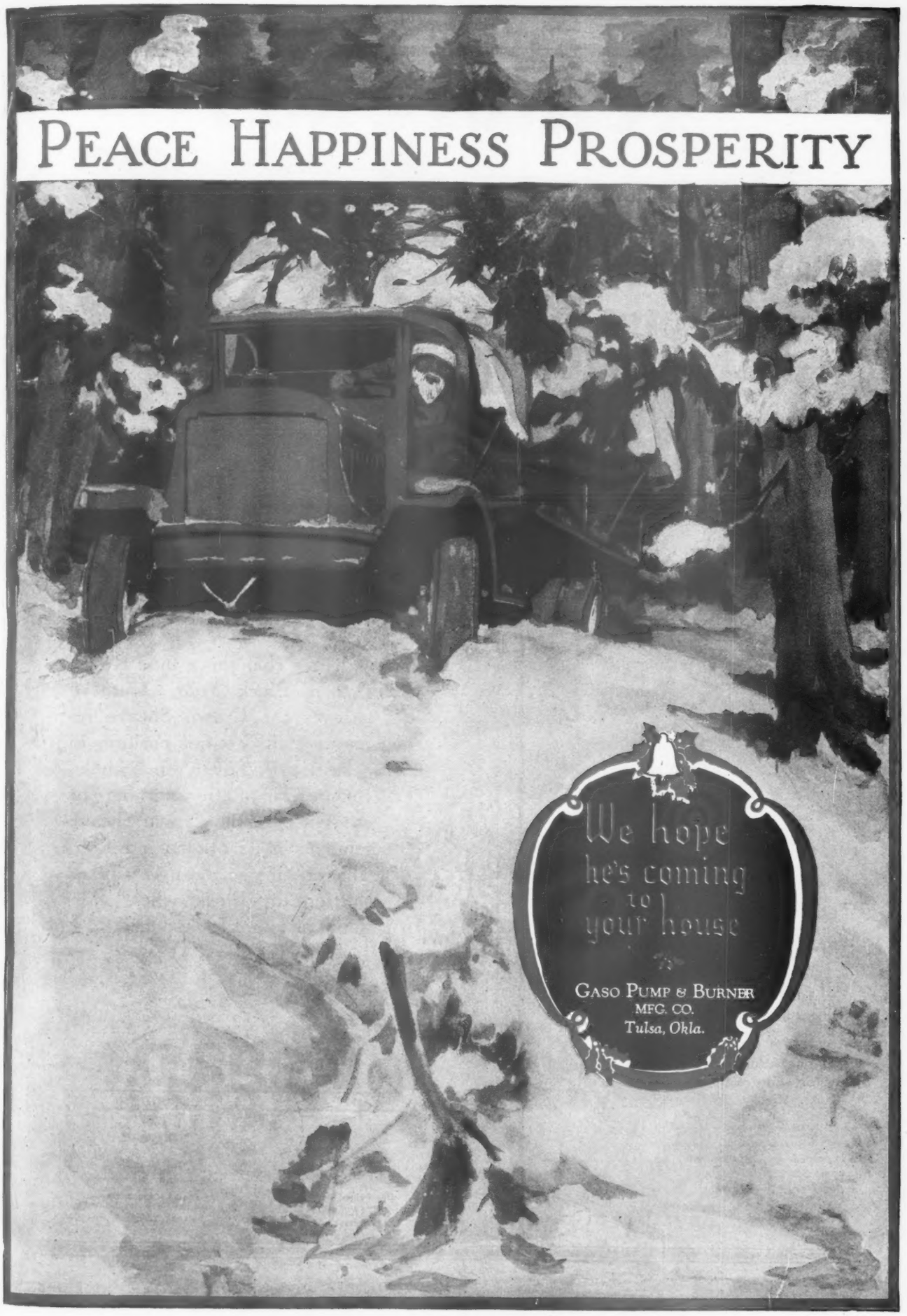
One large company (*name on request*), **who recorded accurately the service rendered by their tools recently reported to us that in a certain district, they had drilled 611,249 feet, using TWO-PIN SPANG WELDLESS JARS, with complete satisfaction. This, and many other similar records, tend to conclusively prove that SPANG WELDLESS JARS more closely approach perfection than any other jar made.**

Are you using the safest jars made?

Spang and Company
BUTLER, PENNA.

Sold at All Leading Supply Houses

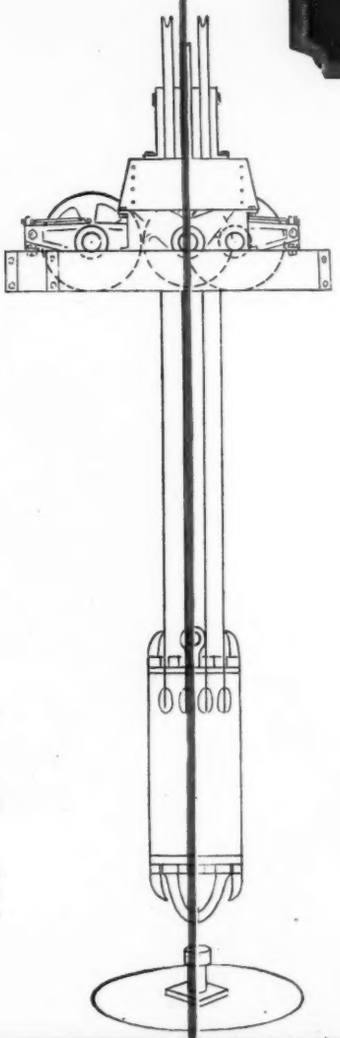
The OIL WEEKLY. Issued weekly by the Gulf Publishing Co., 3301 Buffalo Drive, Houston, Texas. Subscription price $1.00 per year; 10 cents per copy. Entered as second-class mail matter December 25, 1926, at the post office at Houston, Texas, under act of March 3, 1879.



Say you saw it in The OIL WEEKLY

Feature No. 7

Regan Crown Block keeps Traveling Block centered



Feature No. 1
No Side-Drag on Wire Lines

Feature No. 2
Lines Flare in Proper Direction

Feature No. 3
Large Sheaves Reduce Bending

Feature No. 4
Wire Line Slippage Reduced

Feature No. 5
Speed

Feature No. 6
Crown Sheave Over Dead Center

Watch our future advertisements for additional features

Write for pamphlet which describes the many features and illustrates the improved way of stringing up a Crown Block.

When changing the Regan Crown Block from 7 to 8 sheaves the Crown Sheave remains in its central position in dead center over the whole. Regardless of the number of sheaves used the Crown Sheave remains in its original position. This eliminates the necessity of shifting the Block when additional lines are to be added.

Regan
Forge & Engineering Co.
Manufacturers of Oil Well Equipment
San Pedro, California U.S.A.

Houston, Texas
1521 Post-Dispatch Bldg.

Oklahoma City, Okla.
531 W. Main St.

Odessa, Texas

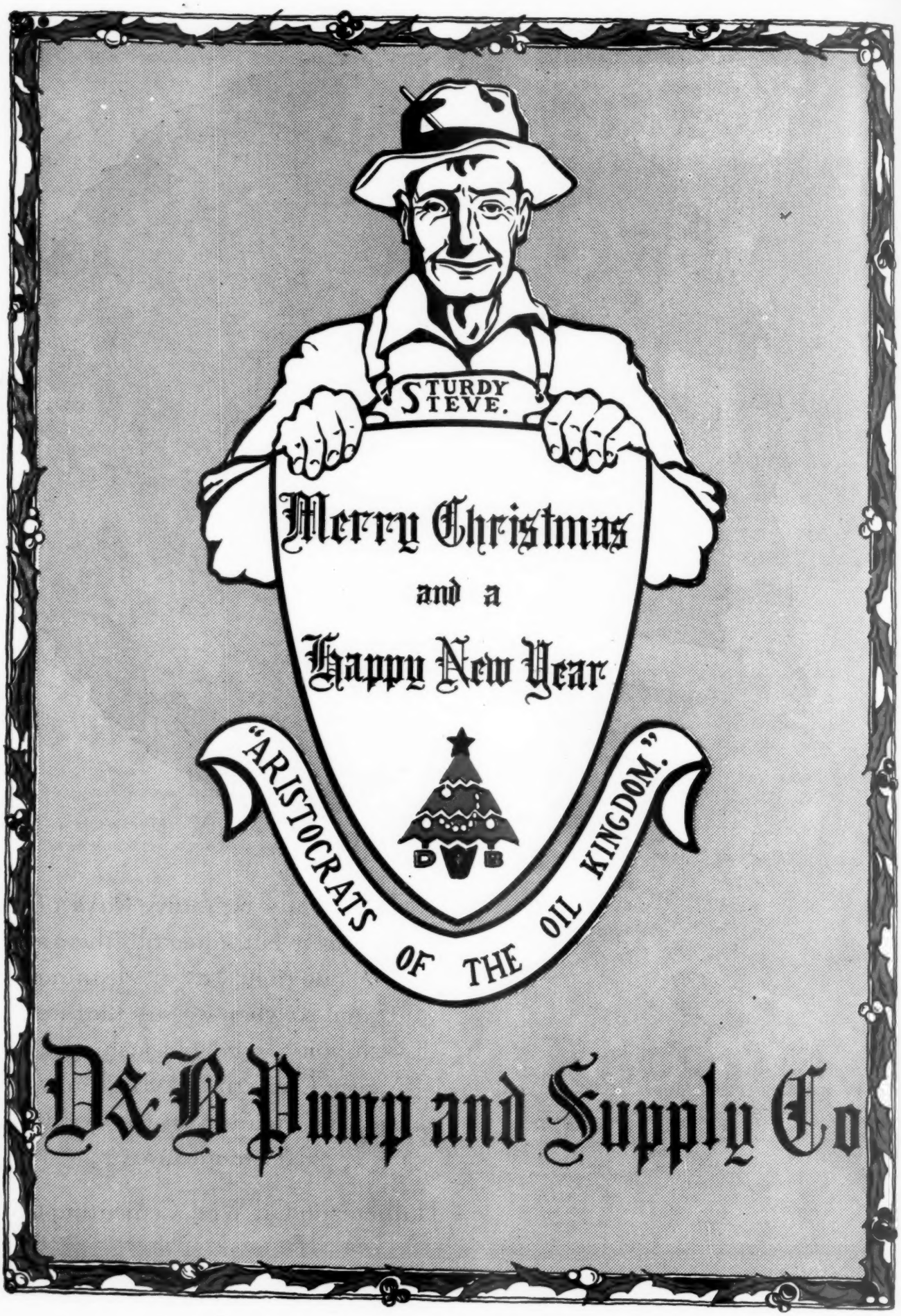
New York City
75 West St.,
Wm. Braat, Manager

Maracaibo, Venezuela,
Wm. Adams, c/o Am. Consul

Pampa, Texas

There may be many ways of Saying it but, after all, there's only one right way of Meaning it; and so when we say that we wish you a good, old-fashioned Merry Christmas, you know that we mean it in the good, old-fashioned way!

Halliburton Oil Well Cementing Co.
Duncan, Okla.

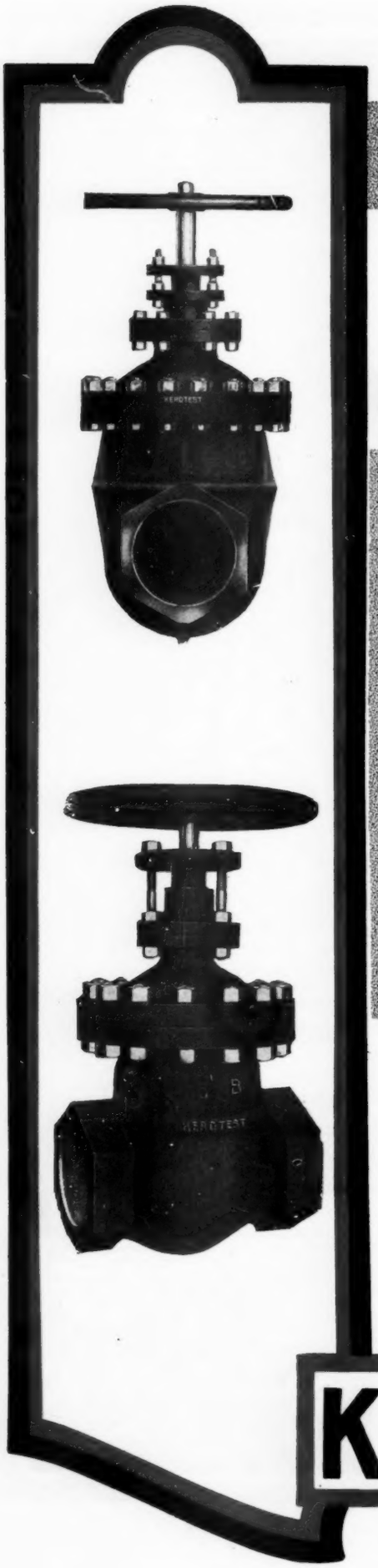


Say you saw it in The OIL WEEKLY

May the CHRISTMAS SPIRIT of FELLOWSHIP and GOODWILL make this a happy season for every person touched by the oil industry and may this SPIRIT spread its blessings through all the coming year ▲ Wm. S. Barnickel and Co.
Tret-O-lite
LIQUID
GROSS
TARE
NET
515 TO 445
50 GALS.
WM. S. BARNICKEL & CO.
ST. LOUIS
MISSOURI
PROCESS PATE
APRIL 24
Tret-O-lite

SMITH
OIL AND GAS
SEPARATOR
S
Compliments
of the
Season
Smith Separator Co.
Tulsa Okla.
SMITH

Say you saw it in The OIL WEEKLY



A solution to your valve troubles

You can't afford to make your well the testing laboratory of untried valves. They might have all the earmarks of a good valve yet hidden in the texture of the steel may be a defect that may cause it to give way at a critical moment.

Kerotest Valves eliminate all such possibilities because they are given the famous Kerosene test at 3000 pounds pressure, then certified by an independent laboratory testing organization before being shipped to the oil fields.

Thus, with every Kerotest Valve you get a certificate of inspection showing that your Kerotest is tried and true—you know beforehand that a Kerotest will hold down the wildest well.

Have you received your copy of Kerotest's new 1927 Catalog just off the press?

Kerotest Manufacturing Co.
Pittsburgh, Penna.

CARRIED IN STOCK AND SOLD BY

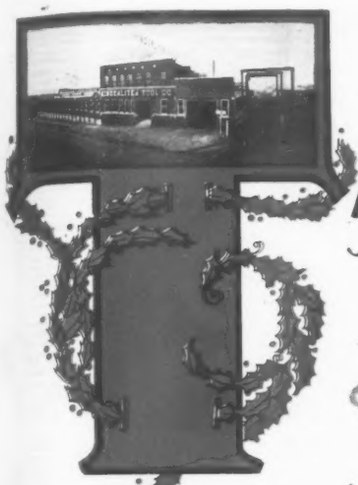
GRINNELL COMPANY OF THE PACIFIC
Los Angeles San Francisco

NORVELL-WILDER HARDWARE CO
Houston Beaumont Shreveport Fort Worth

OIL WELL SUPPLY COMPANY
Oklahoma Kansas Colorado Wyoming

Export Distributors:
OIL WELL SUPPLY COMPANY
Pittsburgh New York Tampico London

KERO TEST
REGISTERED U.S. PAT OFF.



The House With the Open Door

While the Christmas Spirit again hovers over the land . . . . enveloping us in an atmosphere of Peace and Good Will . . . we extend to you

A Merry Xmas and Happy New Year

May our warm thoughts of sincere appreciation that is manifest in the many friendships we have been privileged to enjoy during the past year inspire this seasonal spirit to renew life and meaning, and so bring more joy and happiness.

Kinderlites

Say you saw it in The OIL WEEKLY

Feel the Spring

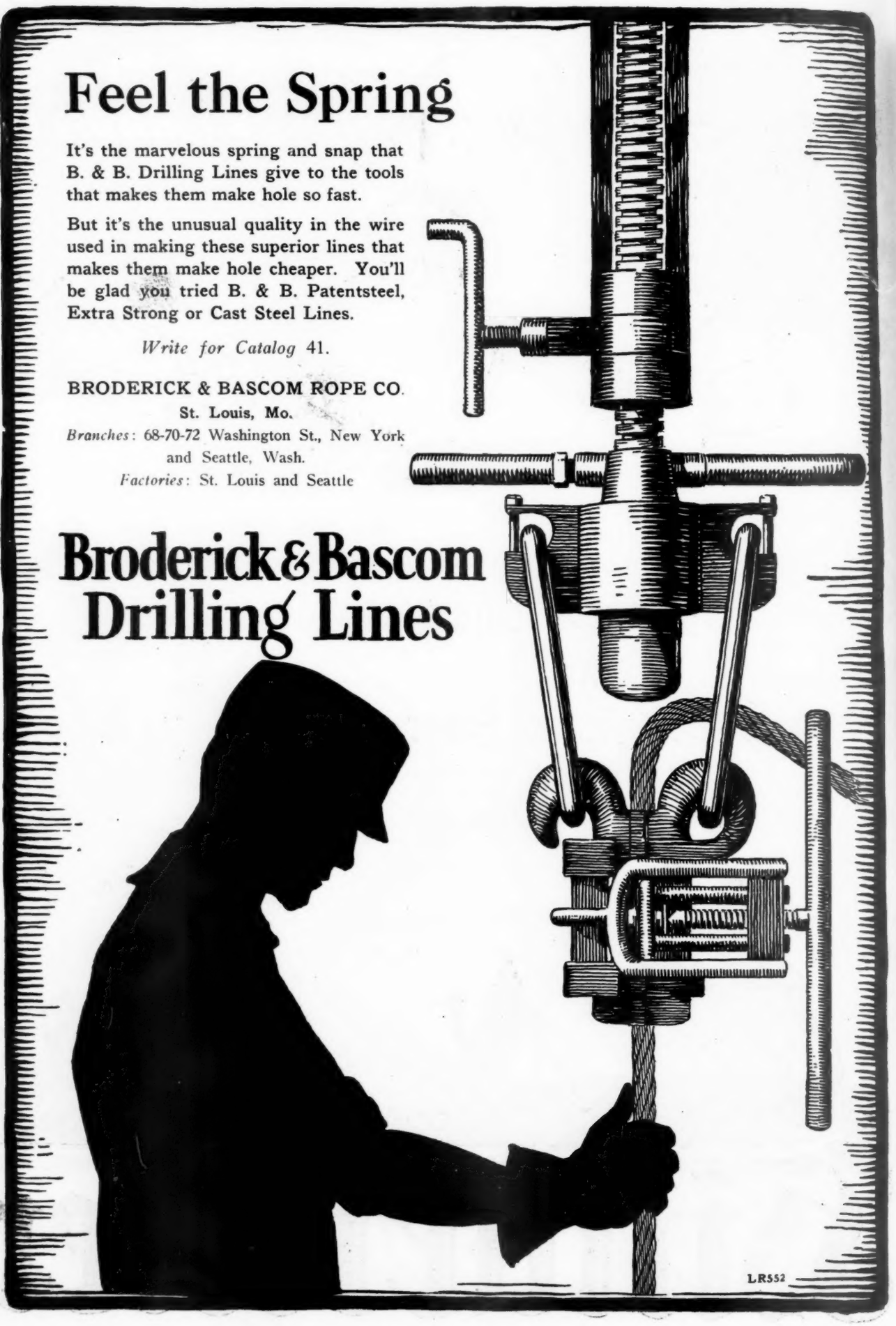
It's the marvelous spring and snap that B. & B. Drilling Lines give to the tools that makes them make hole so fast.

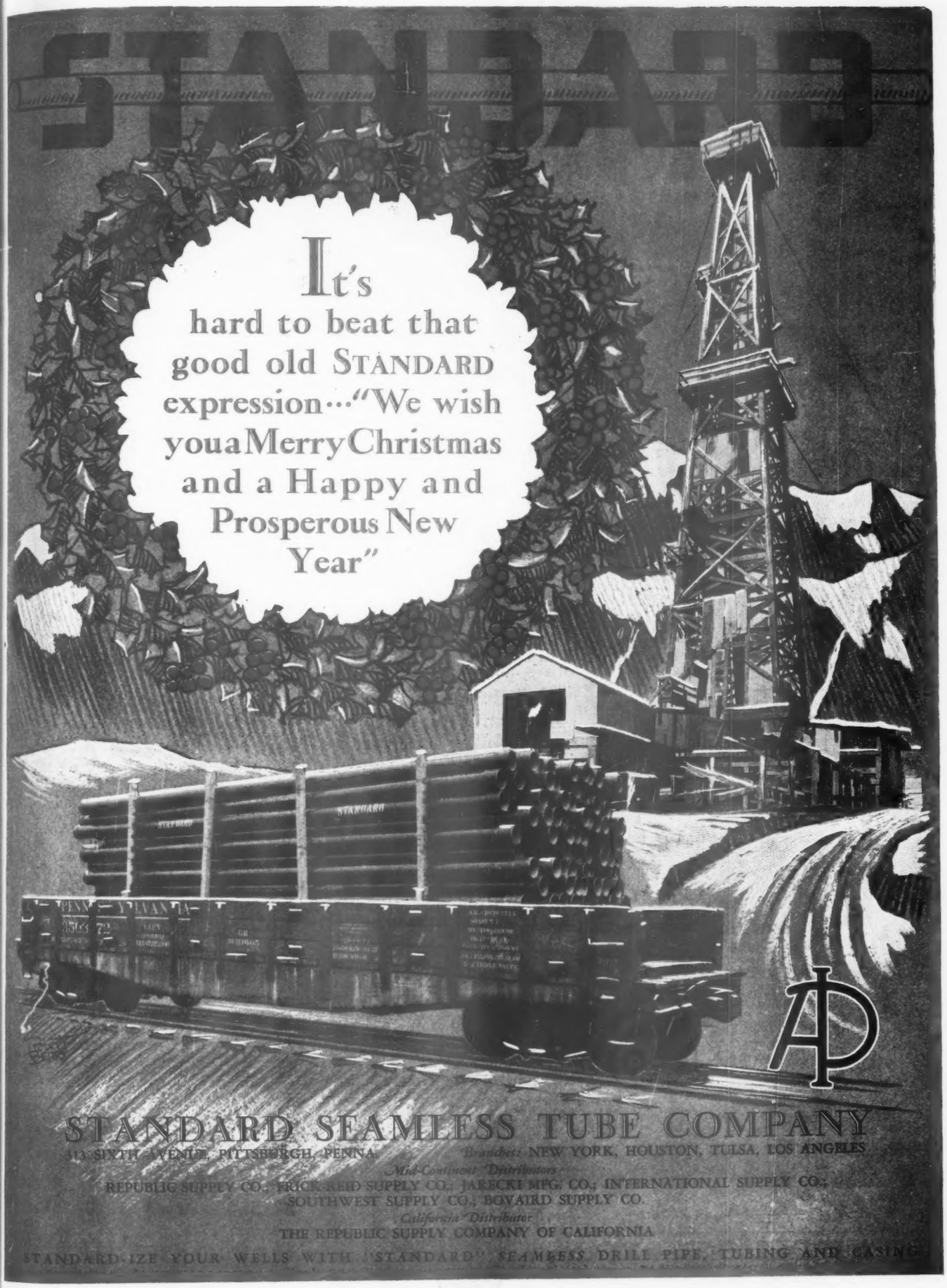
But it's the unusual quality in the wire used in making these superior lines that makes them make hole cheaper. You'll be glad you tried B. & B. Patentsteel, Extra Strong or Cast Steel Lines.

Write for Catalog 41.

BRODERICK & BASCOM ROPE CO.
St. Louis, Mo.
Branches: 68-70-72 Washington St., New York and Seattle, Wash.
Factories: St. Louis and Seattle

Broderick & Bascom Drilling Lines




STANDARD
It's
hard to beat that
good old STANDARD
expression…"We wish
youa Merry Christmas
and a Happy and
Prosperous New
Year"
STANDARD SEAMLESS TUBE COMPANY
313 SIXTH AVENUE, PITTSBURGH, PENNA.
Branches: NEW YORK, HOUSTON, TULSA, LOS ANGELES
Mid-Continent Distributors
REPUBLIC SUPPLY CO.; TRICK-REID SUPPLY CO.; JARECKI MFG. CO.; INTERNATIONAL SUPPLY CO.;
SOUTHWEST SUPPLY CO.; BOYAIRD SUPPLY CO.
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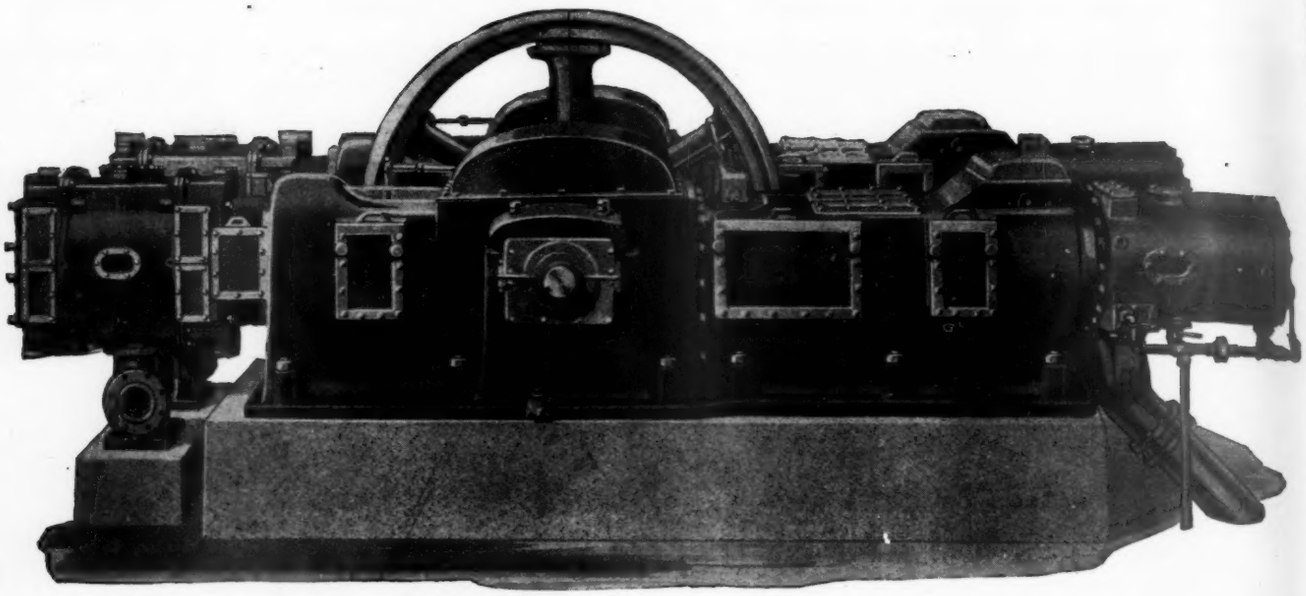
THE REPUBLIC SUPPLY COMPANY OF CALIFORNIA
STANDARD-IZE YOUR WELLS WITH "STANDARD" SEAMLESS DRILL PIPE, TUBING AND CASING



Their Performance is a By-Word

BESSEMER
Gas Economizer

4 cycle gas consumption with 2 cycle simplicity.

The Bessemer Gas Eonomizer cuts 2 cycle fuel consumption to that of a 4 cycle—yet retains all the sturdy simplicity of the 2 cycle power plant.

This development, the experimental work on which has been carried on by Bessemer engineers for the past four years and is now perfected and available to the operator, is a simple mechanical device which injects the fuel gas into the combustion chamber under pressure.

It is a simple, mechanical attachment that gives the 2 cycle power plant the gas economy of a 4 cycle.

WHEREVER they are, whatever work they may be doing, Bessemer Type Tens are known—and noted—for their outstanding performability. Cold facts alone have established Bessemers as the standard of compressor service.

High compressor and mechanical efficiency, staunchness of construction, easy accessibility, outstanding simplicity, low operating and maintenance cost and their utter reliability are all factors that have made Bessemer Type Ten performance a by-word wherever the oil industry uses compressors.

Bessemer serviceability is being unceasingly demonstrated in thousands of installations—in natural gasoline plants, on air-gas lift work and in booster stations. They offer the greatest dollar value, the greatest security for any compressor investment, and incorporate the most progressive engineering features.

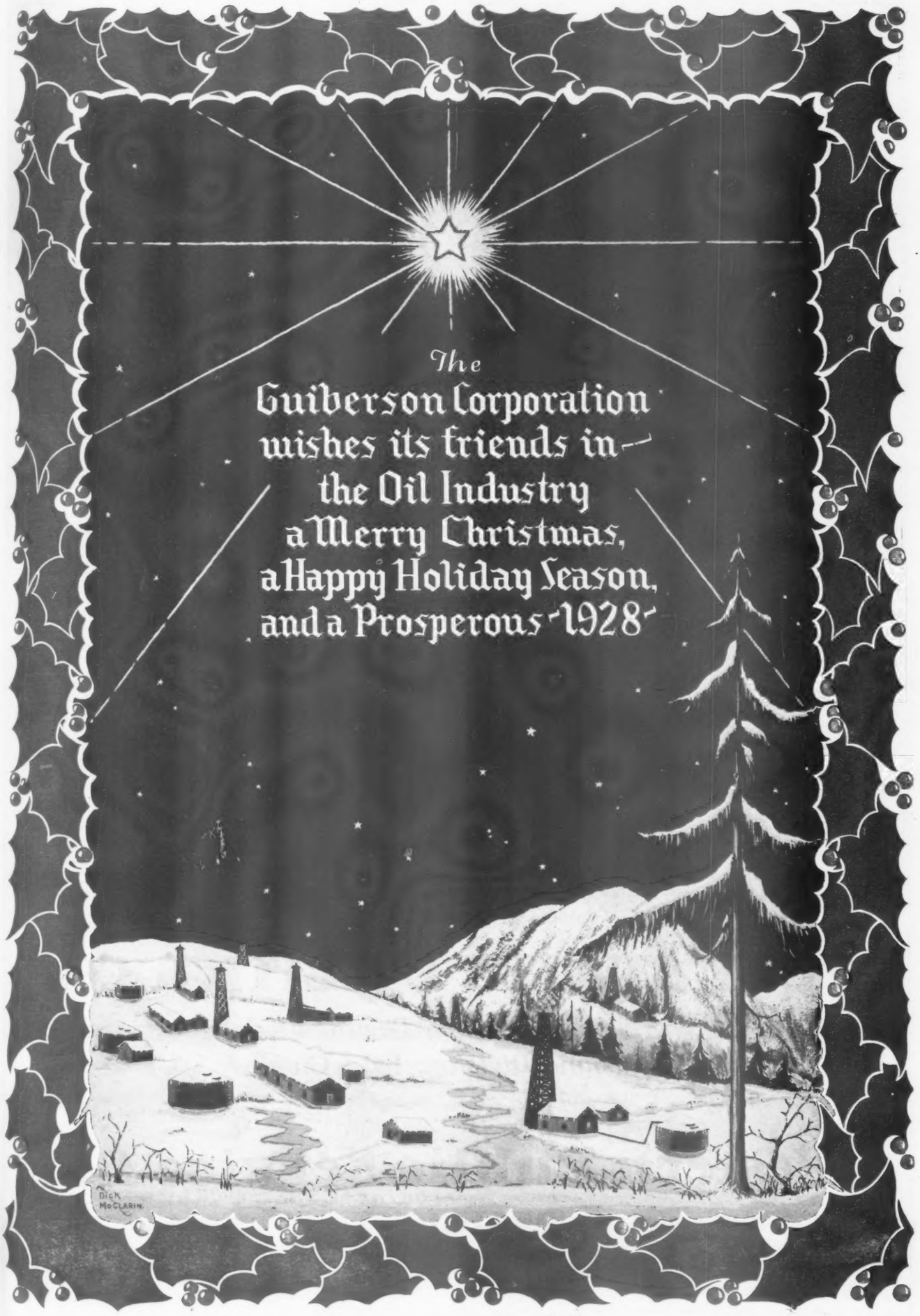
See them in action—look over their performance records—then judge for yourself

THE BESSEMER GAS ENGINE COMPANY
62 York Street :: Grove City, Pa.

BESSEMER

BESSEMER OIL FIELD ENGINES – COMPRESSORS VACUUM PUMPS – ROLLER PUMPING POWERS

Say you saw it in The OIL WEEKLY



Say you saw it in The OIL WEEKLY

Flexibility -- Speed

A quick shift in location. Speed all important. Then you doubly appreciate the convenience and flexibility of electric power.

Ease of handling, flexibility, convenience—these are reasons why electricity is more suited to *shifting conditions* in oil fields.

And that's *another reason* why 15 oil fields in the Gulf Coast area are served by our lines.

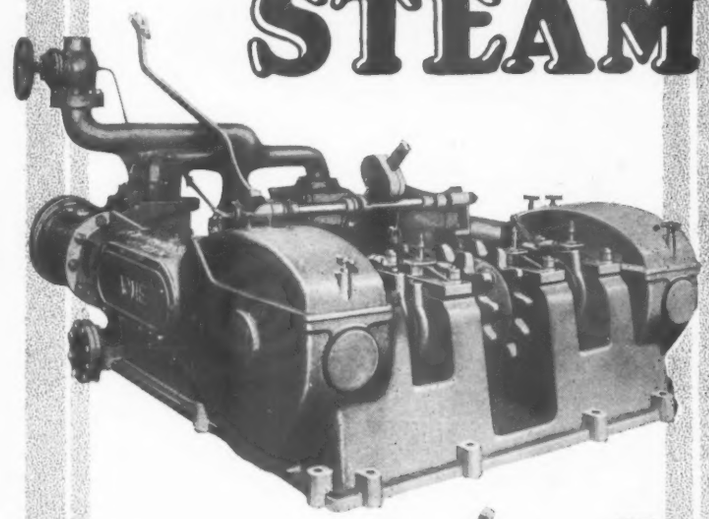
GULF STATES UTILITIES CO.

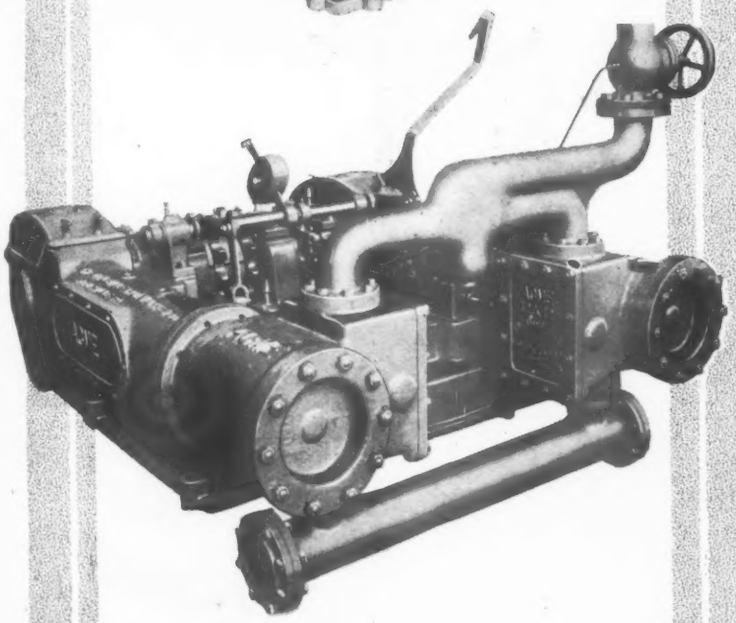
Texas Division: Beaumont
Louisiana Division: Lake Charles

Western Public Service Co.

BEAUMONT

TITUSVILLE TWIN CYLINDER STEAM ENGINES





The Titusville Acme Twin Cylinder Steam Engine is always efficient, always reliable for all kinds of oil well drilling operations.

Examine its design and construction from every angle—note the completely enclosed working parts and the water drain on the steam manifold.

Consider the long life advantages of four separate main bearings with interchangeable babbitt liners and caps die cast for quick replacement in the field, and the highly efficient splash lubricating system—then you'll realize why the Acme Steam Engine is the most dependable steam power unit money can buy.

Ask your Continental Supply man to show you this dependable steam unit.

The TITUSVILLE IRON WORKS Co.
TITUSVILLE • PENNA.

SOLE DISTRIBUTORS

The CONTINENTAL SUPPLY COMPANY

For THE CONTINENTAL 72-76 Trinity Court

Export WELL SUPPLY CO. New York City, N. Y.

Titusville Acme Boilers Single and Twin Steam Drilling Engines Tico Gas Engines Band Wheel and Geared Powers

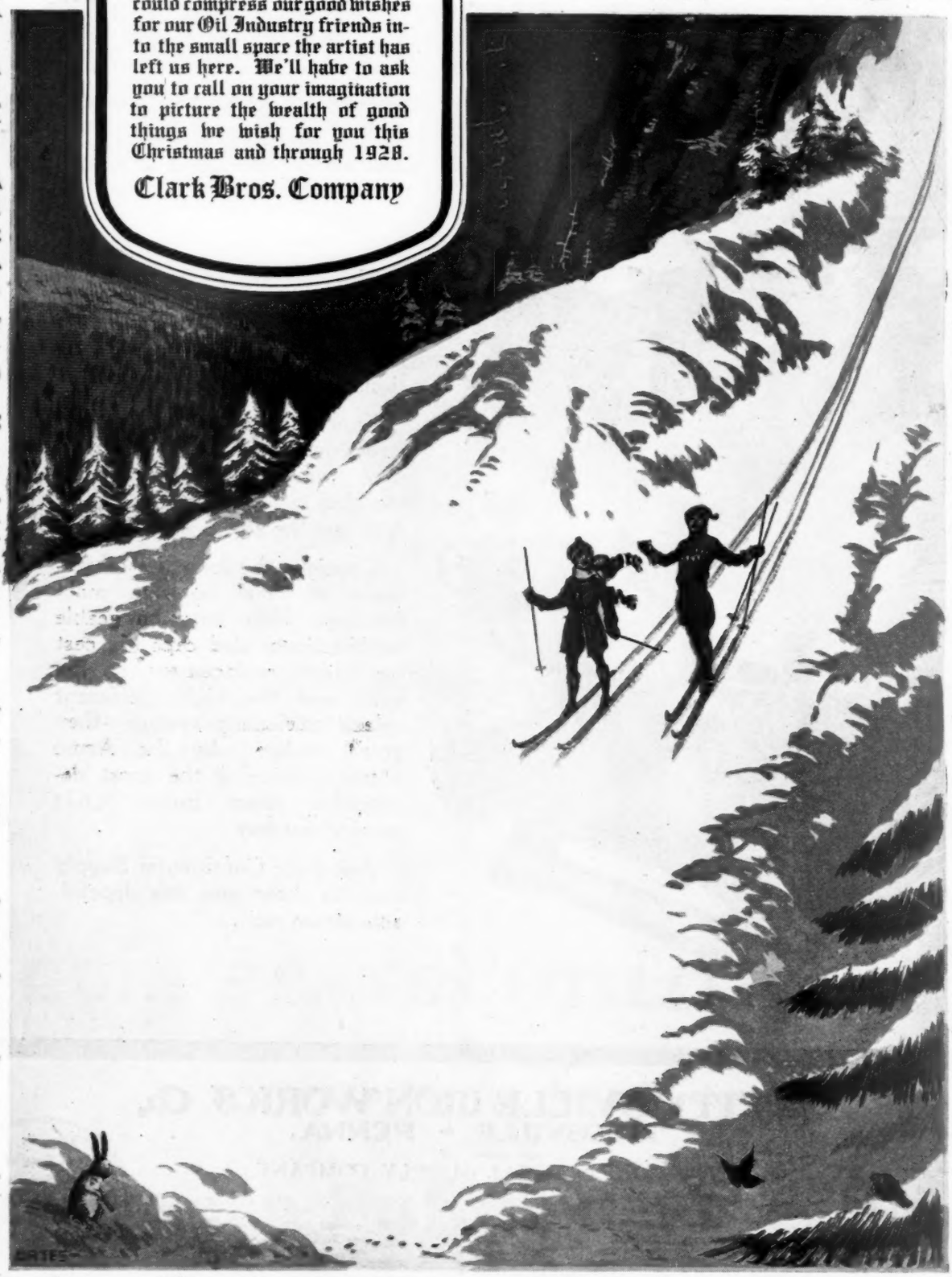
Titusville Acme Rotaries Acme Swivels and Speed Draw Works High Pressure Boilers Crown Blocks Slush Pumps

TITUSVILLE OIL COUNTRY MACHINERY

RUGGED - ENDURING

Not even a Clark "Super 2" could compress our good wishes for our Oil Industry friends into the small space the artist has left us here. We'll have to ask you to call on your imagination to picture the wealth of good things we wish for you this Christmas and through 1928.

Clark Bros. Company



INDEX TO ADVERTISERS

A

Abercrombie Company, J. S. ... *
Acme Fishing Tool Company ... *
Aetna Ball Bearing Mfg. Company ... 95
Ajax Iron Works ... *
Alco Oil Tool Company ... *
Allis-Chalmers Mfg. Company ... 81
Alten's Foundry and Machine Works ... 80
Aluminum Company of America ... *
American Cable Company ... *
American Roller Bearing Company ... *
American Seamless Tube Corporation ... 96
American Telegraph & Telephone Company ... *
American Well Works ... *
A[illegible]rson & Anderson ... 90
[illegible]ews Steel Company ... 76
[illegible]n, Paul & Company ... *
Athey Truss Wheel Company ... 69
Axelson Machine Company ... Back cover

B

B. & A. Specialty Company ... *
Baash-Ross Tool Company ... *
Baker Casing Shoe Company ... *
Baltimore Hotel ... *
Barnickel, William S. & Company ... 7
Beebe Brothers ... *
Bessemer Gas Engine Company ... 14
Biggs Boiler Works ... *
Bovaird Supply Company ... *
Bowser Company, S. F. ... *
Broderick & Bascom Rope Company ... 12
Brown, Arthur C. ... 90
Buckeye Traction Ditcher Company ... *
[illegible]r Manufacturing Company ... *
[illegible]yers, A. M., Company ... 63

C

Cameron Iron Works ... *
Central Alloy Steel Corporation ... *
Central Supply Company ... *
Chicago Pneumatic Tool Company ... *
Clark Brothers Company ... 18
Climax Engineering Company ... *
Continental Supply Company ... 54 55
Cooper, Fred E. ... *
Cyclone Fence Company ... *

D

D. & B. Pump & Supply Company ... 6
D. & M. Machine Works ... *
Darling Valve & Mfg. Company ... *
Dart, E. M., Manufacturing Company ... *
Diamond Drill Carbon Company ... 84
Dunn Mfg. Company ... 2[illegible]

E

Eastern Torpedo of Ohio Company ... 90
Elliott Core Drilling Company ... 78
Emsco Derrick & Equipment Company ... *

F

Fort Worth Laboratories ... 91
Franklin Valveless Engine Company ... *
Frick-Reid Supply Company ... 79
Fuller Machine & Forge Works ... 82

G

Gardner-Denver Company ... 57
Gaso Pump & Burner Mfg. Company ... 3
General Electric Company ... *
Gott, H. P. Mfg. Company ... 94
Goulds Pumps, Inc. ... 84
Gray Tool Company ... 91
Great Northern Hotel ... *
Greenspons, Jos., Iron & Steel Co. ... *
Guiberson Corporation ... 15
Gulf Refining Company ... 98
Gulf States Utilities Company ... 16

H

Haliburton Oil Well Cementing Company ... 5
Halliburton Co., Earl P. ... *
Hardway & Cathey ... 90
Haynes Stellite Company ... *
Harrisburg Pipe & Pipe Bending Company ... *
Harrisburg Pipe & Pipe Bending Company of Texas ... *
Heppenstall Forge & Knife Company ... 90
Hercules Motors Corporation ... *
Hercules Tool Company ... *
Heydrick Mapping Company ... 90
Hinderliter Tool Company ... 11
Hirsch & Brown ... 90
Hopkins, Edwin B. ... 90
Hough Manufacturing Co., Charles N. ... 86
Hughes Tool Company ... Front cover
Humble Oil & Refining Company ... 83
Hunter Company, M. H. ... *
Hyatt Roller Bearing Company ... *

I

Imperial Royalties Company ... *
International Derrick & Equipment Co. ... *

J

Jarecki Mfg Company ... 65
Jensen Bros. Mfg. Company ... *
Johns-Manville, Inc. ... *
Jones Company, The S. M. ... 94
Jones Oil Well Reamer Company ... *

K

Kerotest Manufacturing Company ... 10
Keystone Pipe & Supply Company ... 94

L

Landis Machine Company ... *
Larkin & Company ... *
Layne & Bowler Company, The ... *
LeBus Rotary Tool Works ... *
Link-Belt Company ... *
Lorraine Corporation ... *
Lubrikup Company ... *
Lucey Manufacturing Company ... *
Ludlow Valve Manufacturing Company ... 97
Lufkin Foundry & Machine Company ... 40

M

Maracaibo Agencies ... *
MacClatchie Manufacturing Company ... *
Magnolia Petroleum Company ... *
Maloney Tank Manufacturing Company ... *
Manzel Brothers Company ... *
Martin-Loomis Corporation ... *
Maverick, Phillip ... 86
McEvoy, J. H. & Company ... *
Metric Metal Works ... 9
Mission Sales Company ... *
Moore, Lee C., & Company ... 51

N

National Petroleum Engineering Company ... *
National Pigments & Chemical Company ... 88-95
National Supply Company ... 73
National Tube Company ... *
Neilan Schumacher & Company ... *
Norris Bros., Inc. ... 97
Norvell-Wilder Hardware Company ... *
Nuttall Company, R. D. ... 66
Nye Tool & Machine Works ... *

O

O'Brien Steel Construction Company ... 86
Oil City Iron Works (Shreveport) ... *
Oil Country Specialties Company ... *
Oil Well Supply Company ... 22

P

Parkersburg Rig & Reel Company ... 92
Pattin Bros. Company ... *
Peden Iron & Steel Company ... 82
Peerless Supply Company ... *
Petroleum Iron Works ... *
Petroleum Rectifying Company ... 59
Philadelphia Gear Works ... *
Pyne, W. F. ... 86
Pittsburgh Steel Products Company ... *
Price, W. A. ... *

R

Ratigan, J. P. ... 80
Reading Iron Company ... 71
Reed Roller Bit Company ... Inside back cover
Regan Forge & Engineering Company ... 4
Reid, Joseph, Gas Engine Company ... *
Republic Iron & Steel Company ... 77
Republic Supply Company ... *
Rollway Bearing Company ... *

S

Shaffer, J. E. Company ... *
Shaffer Specialty Company ... *
Shaffer Tool Works ... *
Shaw, S. F. ... 90
Sheffield Steel Corporation ... *
Shine, Harry B. ... 91
Sinclair Refining Company ... *
Smith Corporation, A. O. ... *
Smith, H. C., Manufacturing Company ... *
Smith Separator Company ... 8
Smith, Howard Company ... *
South Chester Tube Company ... 53
Southern Engine & Pump Company ... *
Spang & Company ... Inside front cover
Star Drilling Machine Company, The ... *
Standard Seamless Tube Company ... 13
Stoody Company ... *
Stone, Jesse R. ... 90
Sullivan Machinery Company ... *

T

The Texas Company ... 88
Templeton Kenly & Company ... *
Texas Creosoting Company ... *
Texas Cyclone Fence Company ... *
Texas Power & Light Company ... *
Texas Rubber Specialty Company ... *
Texas Steel Company ... *
Timken Roller Bearing Company ... 75
Titusville Iron Works ... 17
Trimont Manufacturing Company ... *
Trinity Portland Cement Company ... *
Trumble Gas Trap Company ... *
Tyler Tube & Pipe Company, The ... 88

U

United Iron Works ... 95
United States Torpedo Company ... 78
U. S. Tool Company ... *

V

Victaulic Company of America ... *

W

Waukesha Motor Company ... *
Weinzierl, John F. ... 90
Westcott & Greis ... *
Westinghouse Electric & Manufacturing Co. ... *
West Texas Utilities Company ... *
Wico Electric Company ... *
Wheeling Steel Corporation ... *
Williams & Company, J. H. ... *
Williamsport Wire Rope Company ... *
Wilson Oil Tools Corporation ... *
Wilson-Snyder Mfg. Company ... *

Y

Yale & Towne Mfg. Company ... *
Young Engineering Corporation ... *

Z

Zero Hour Torpedo Company ... *

DUNN TOOLAGRAM
Greetings Friends!
OIL WELL DUNN TOOLS
The holiday season brings us the privilege of expressing again the friendship and good wishes which we have for you all the year through.
Our entire organization takes keen pleasure in wishing you a Merry Christmas and a Happy New Year.
DUNN
MANUFACTURING COMPANY
OXNARD, CALIFORNIA
Mid-Continent Branch Warehouse
215 East Archer St. Tulsa, Oklahoma
Export Sales Office
150 Broadway, New York City

Say you saw it in The OIL WEEKLY

Volume 48, No. 1 December 23, 1927

The OIL WEEKLY

Edited Weekly at Houston, Texas SPENCER W. ROBINSON, Editor

TABLE OF CONTENTS

Features

PRODUCTION TAKES ANOTHER TURN DOWNWARD 23
By Kent Ridley

MAGNOLIA LOOPING MAIN LINE TO BEAUMONT TERMINAL 25
By H. H. King

EDITORIAL COMMENT 26

MODIFICATION OF YATES ACREAGE BASIS PRORATION OFFERED 27
By H. H. King

SEMINOLE WELL AVERAGE REACHES LOWEST SINCE DISCOVERY 29
By Wallace Davis

GULF COAST'S DEEPEST PRODUCER BACK ON PRODUCTION 30
By Jack Logan

USE AND CARE OF GAS ENGINES IN OIL FIELD WORK 31
By John Reid

RINCON DEFINITELY IN COMMERCIAL PRODUCER CLASS 35
By Brad Mills

PORTLAND CEMENT FOR SHUTTING OFF WATER IN OIL WELLS 38
By John F. Hough, C. E.

COMAR SETS EXAMPLE IN CAMP BUILDING AND MAINTENANCE 43
By Wallace Davis

PLEASANT HILL FIELD EXTENDED FIVE MILES NORTHWEST 45

Departments

UNITED STATES PRODUCTION—A. P. I. FIGURES 56
COMPLETIONS FOR THE PAST WEEK IN ALL U. S. FIELDS 61
PERMITS GRANTED FOR NEW WELLS DURING THE PAST WEEK 67
WILDCAT DRILLING REPORTS FROM ALL IMPORTANT AREAS 70
NEW EQUIPMENT, CATALOGS, BULLETINS AND BOOKS 93
SQUEAKS FROM THE BULL WHEEL 96
CRUDE OIL PRICE QUOTATIONS 58
IMPORTS AT PRINCIPAL PORTS 60
RECEIPTS OF CALIFORNIA OIL 60
PERSONAL MENTION, MEN YOU KNOW 37
HOW OIL MEN PLAY 87
WEST TEXAS PRODUCTION 52

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"OILWELL"
OIL BATH ROTARY SWIVEL

All working parts operate in a bath of oil, which eliminates the constant care of lubrication.

The swivel will not bind in operation.

No sand, grit, or other substances can come in contact with the moving parts, because all working parts are completely enclosed. This insures long life to the parts.

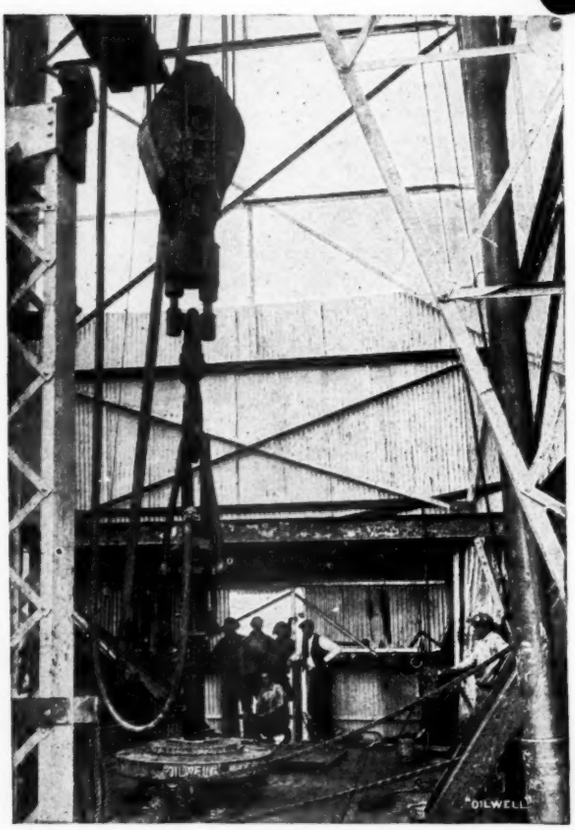
All glands are packed and adjusted from the outside, without removing any part of the swivel.

Note the bail rest which holds the bail out at an angle of approximately 45°, thus enabling the hook to be connected or disconnected without danger or difficulty.

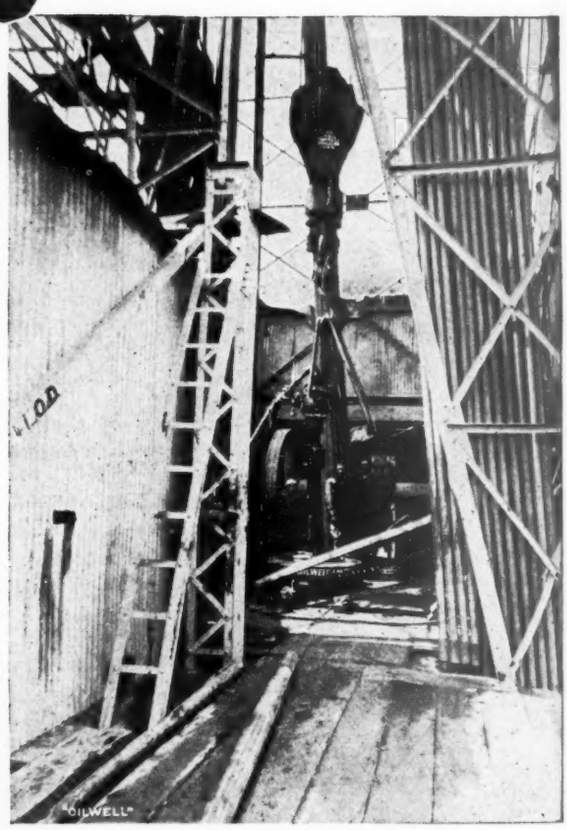
One **"OILWELL"** Oil Bath Rotary Swivel will do the work of two ordinary swivels, because you can use it continuously. There is no need for an extra swivel for emergencies.

Send for special Bulletin, or inquire at any of our 100 Branches.

"OILWELL" Rotary Outfits, being made up of component parts each of which is a leader in its line, are vastly superior to any other outfits.



"OILWELL" Oil Bath Swivel in the California Field.



Another **"OILWELL" Oil Bath Swivel in the California Field. Drilling below 6,000 feet.**

OIL WELL SUPPLY CO.

NEW YORK—LOS ANGELES—PITTSBURGH, U.S.A.—SAN FRANCISCO—TAMPICO—LONDON

WORLD'S OLDEST AND LARGEST MANUFACTURERS OF OIL FIELD EQUIPMENT

Say you saw it in The OIL WEEKLY

Production Takes Another Turn Downward

Oklahoma accounts for bulk of decrease in which all sections participate; restriction agreements in Seminole and West Texas extended

By KENT RIDLEY

ESTIMATES of daily average production for the week ending December 17 show a decline of 31,000 barrels under the previous period, with Oklahoma accounting for nearly half of the total decrease. Fewer new wells were started, as shown by reports of permits issued, and while the total number of completions covered by the current report is larger, the volume of new oil is less.

Two important pipe line projects which will help dispose of the surplus of oil in the Mid-Continent area were announced, Magnolia Petroleum Company and the Sinclair organization both increasing capacity of lines to their Gulf Coast terminals. The Sinclair line will also make available some empty storage in Central Texas for use in storing oil from Oklahoma.

Seasonal slump in demand is making the position of the refiner less comfortable, both gasoline and fuel oil being in slow demand with consequent easier prices, but this situation is not reflected in the crude market. Even in North Texas and the Panhandle where smaller plants are curtailing because of slack demand, premium prices are being paid for crude.

Most of the operators interested in the Yates field in West Texas have agreed upon a revised pro-ration plan which would make pipe line outlet available on an acreage basis and thus tend to check the inclination to drill more wells, and Seminole operators have extended their gentlemen's agreement covering outside completions to March 1. Incidentally, some of the outside wells there, dreaded as market breakers, have symptoms of not being such. In the West Texas situation, Simms Oil Company has offered an acreage plan with different angles to the one previously considered, and a vote of those interested is being taken. Failure of operators there to agree is calculated to cause an embarrassing situation in handling a visible potential production far in excess of facilities.

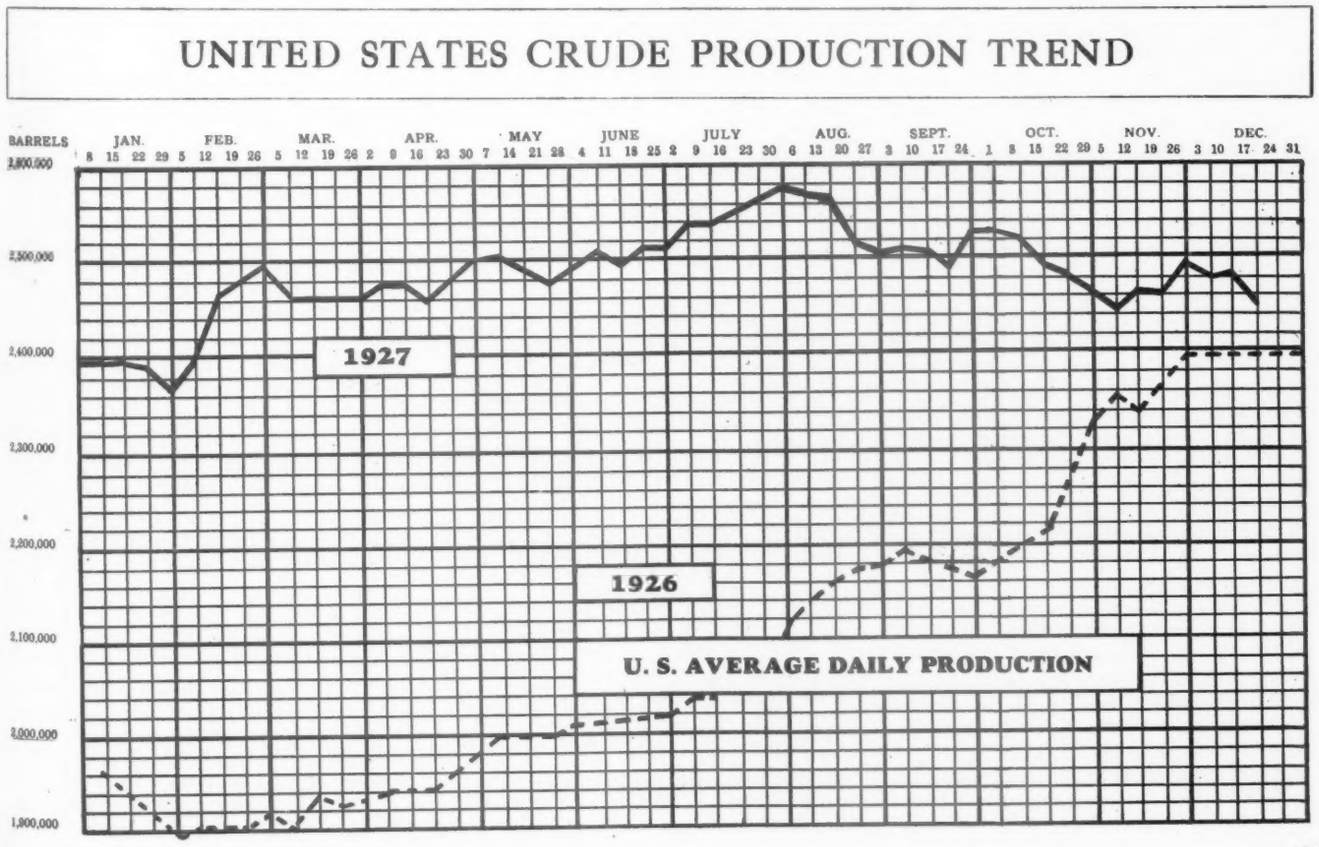
Production Drop

With practically every important producing area registering a decrease, production of the United States dropped decidedly during the past week, the daily average for the week being 2,456,950 barrels, or approximately 31,000 barrels less than for the previous week.

The greatest decrease was in Oklahoma, where the average fell about 16,000 barrels, the new figure being 720,300 barrels a day. The principal decreases were in the Earlsboro and Bowlegs pools of the Seminole area, where the daily averages dropped approximately 9000 and 6000 barrels, respectively.

The daily average of Texas fields was 659,900 barrels, approximately 13,000 barrels less than during the preceding week; the decrease being due mostly to a drop of more than 11,000 barrels in West Texas, for which section the new figure was 260,650 barrels.

California's daily average was 624,100 barrels, a decrease of 3300 barrels; Louisiana, 61,450 barrels, decrease, 800; of Arkansas, 95,200 barrels, decrease, 900; Kansas, 105,050 barrels, decrease, 1000; New Mexico, 2150 barrels, decrease, 100; Colorado, 6850 barrels, no



DETAILS ON CRITICAL FIELDS

Pool—	Oil Wells Completed	Total Initial Production	Initial Per Well	No. Producing Wells	Daily Production Barrels	Daily Production Per Well	Rigs Up	Wells Drilling
PANHANDLE								
Hutchinson County	1,081	542,780	502	977	55,080	56	8	20
Gray County	176	66,325	377	172	19,830	115	12	42
Carson County	177	58,695	332	153	7,550	49	..	5
Wheeler County	41	14,170	346	33	1,405	43	3	9
Totals	1,475	681,970	462	1,335	83,865	62	23	76
WEST TEXAS—								
Church & Fields	172	197,370	1,147	164	91,090	555*	5	9
Gulf-McElroy	55	49,700	904	55	18,710	340	..	2
Hendricks	33	98,075	2,972	42	54,145	1,289*	23	68
Yates	94	571,850	6,084	88	54,015	614*	31	43
Totals	354	916,995	2,590	349	217,960	625	59	122
OKLAHOMA—								
Seminole	1,177	1,506,965	1,280	1,049	368,809	351	8	143

*Production partially pinched.

change; and Montana, 13,050 barrels, no change. Wyoming was the only State which registered an increase. Its daily average for the week was 57,900 barrels, a gain of 5600 barrels.

North Texas Plants Curtail

Further curtailment of refinery operations in the North Texas district is being caused by the dull market and low prices prevailing on gasoline and fuel oils. The small plant owners not equipped to take on orders from export buyers for high test gasoline are particularly hit by the present market condition, as fuel oil and U. S. motor grade of gasoline are not moving in any appreciable quantity. The latter product has dropped a fraction under six cents per gallon, while fuel oil is hard to move at 75 cents per barrel. The widespread use of natural gas in Texas has cut into the fuel oil market, and some refiners with cracking units are finding it more profitable to convert their surplus fuel oil into lighter products.

The off season condition of the refined market in the North Texas district is not reflected in crude circles, as spote crude is commanding a small premium in the centrally located fields, and a few contracts have been made by refiners to pay 10 cents premium for daily runs of crude over a fixed period. Refiners in the Texas Panhandle district also are encountering a tight crude market in Hutchinson County, and one plant at Borger is operating on premium priced oil. The high gravity crude produced in Gray County has been bringing a premium from independent buyers for several months. The three independent refining plants operating in West Texas are more favorably situated on the crude supply, and can cover on their entire requirements at the posted price, plus transportation charges, which involves freight tariff for the plants at San Angelo and El Paso. The Col-Texas Refining Company at Colorado and the Central Texas Refining Company's small plant at Brownwood are served by direct crude lines to local fields.

The new production peaks being registered weekly by the West Texas district are made possible by increased tank car movement of crude, and by completion of large tanks in the flush oil areas. This district averaged 257,620 barrels daily during the past week, and the combined direct trunk line outlet is about 130,000 barrels daily. The trunk lines being built by Shell Pipe Line Company and the Illinois Pipe Line Company, with Texas Pipe Line Company a likely builder, will not be in service until next spring and summer. Several of the largest flush fields in the district are expected to have reached their peak production by this time.

California Situation

Long Beach contiues to keep the industry guessing in California. Opinions as to the ultimate outcome of the huge deepening and drilling campaign differ greatly. The prediction two weeks ago that production would not exceed 150,000 barrels was timely. Developments since lead the experts to believe that the maximum output may even reach 175,000 barrels, however. Regardless of what the outcome may be, the oil market in the State is unsettled chiefly because of the steady increase in production from the area. Several good wells were completed during the week, but they were considerably smaller than some of the first finished in the deep sand. If the wells near the apex of the structure continue small, the burden will fall on the edge wells, which have been the most prolific thus far.

The new Rincon field has temporarily ceased to be a source of worry, although it is believed that a good production will be developed within a few months. The discovery well has been officially completed, and more than a dozen wells are drilling in the new district, many of which are approaching the oil sand.

The demand for fuel oil in California was not as keen during the past week as earlier in the season. The State is seeking markets other than the Atlantic seaboard, since competition from Gulf ports has become so sharp. The cost of transporting a barrel of fuel oil from California points to remote Atlantic ports is approximately three times as great as from certain Gulf ports. The foreign and Pacific domestic trade remains fairly firm.

No change was noted in the California gasoline market. Local consumption continues at a rate considerably in excess of that of a year ago. The Pacific foreign demand is good.

Seminole Agreement Extended

Decision on the part of Seminole's proration committee and leading operators in the area extended the gentlemen's agreement, concerning holding new pool openers in the territory to 100 barrels daily and no offset drilling around these discoveries, to March 1, gives the Mid-Continent production situation a much brighter outlook. With usch an action comes a continued drop in Seminole's production, the daily yield having declined 12,000 barrels within the past week.

Notice was received in Tulsa December 16 that exporters are in the market for 61-63 and 64-68 grades of gasoline at the time North Texas refiners are reporting being cleaned up in these grades.

There are indications of stronger demands in the near future for U. S. motor grades and natural gasoline, which is apparently destined to grow out of the lowering of stocks of higher grades.

The weakening of demand for gasoline due to cold weather throughout the North is reported to be fairly well offset by the increased demand for fuel oil and distillates. Standard of Indiana last week revised its selling plan on furnace oils for price discounts in the Chicago tank wagon district. A one-cent discount per gallon is now given from its regular nine-cent price on a purchase of 100 to 349 gallons. This is against the former figure of 100 to 799 gallons. Also one and one-half cents discount is given on 350 gallons and over, instead of 800 gallons under the former plan.

New Wells

Drilling permits issued Oklahoma, Texas, California, Kansas, Arkansas and Louisiana, during the week ending December 17 numbered only 257, as against 350 for the previous week, with all except California showing decreases. Texas issued only 128 as compared with 195; Oklahoma 57, a decrease of 14; Kansas 20, decrease of two; Louisiana 15; decrease five; Arkansas two, as against 12, and California 35, an increase of five. The total number of permits issued by these six states and the Rocky Mountain States so far this year is 15,696; at the corresponding time last year 24,697 had been granted.

Completions

The initial production from the 210 oil wells completed during the past week aggregated 103,349 barrels, or 3616 barrels less than the amount from only 184 wells of the week before. The lower average per well was due to an unusual increase in the number of new wells reported in Pennsylvania, where the initial production is low. Gas wells for the past week numbered 74 as against 55 for the week before, and there were 110 failures as against 108. Total completions, including oil and gas producers and failures was 394, as against 347 for the previous week.

Magnolia Looping Main Line to Beaumont Terminal

Construction of *240* miles of *10*-inch welded pipe south from Corsicana will increase capacity to *110,000* barrels daily

By H. H. KING
Staff Representative

DALLAS, Texas.—Magnolia Pipe Line Company will start construction work about January 1 on laying approximately 240 miles of 10-inch welded line parallel to its Mid-Continent trunk line system between Corsicana and Beaumont, to provide a maximum daily capacity of 110,000 barrels between these two points. This new line to Beaumont is being built primarily to provide uninterrupted movement of West Texas low gravity crudes, and also to relieve congestion in the Mid-Continent system below Corsicana station since the acceptance of 20,000 barrels of common carrier oil daily from the Atlantic Oil Producing Company in Seminole, Texas Panhandle and West Texas fields.

Magnolia has been among the leaders in pipe line expansion within the past two years, having completed and started about 1159 miles of eight- and 10-inch welded lines in Texas, Oklahoma, Arkansas and Louisiana. Since January, 1926, Magnolia Pipe Line Company has carried out an almost continuous enlargement program. The 270-mile, eight-inch line from Smackover to Beaumont was started in January, 1926, and in May, the same welding crews were transferred to Texas to extend the Luling line to the Mirando district in Southwest Texas, a distance of 176 miles. The next project was launched in November, 1926, when 94 miles of 10-inch line was built northwest from the Ranger district towards the Texas Panhandle to form a joint line to the Panhandle with Gulf Pipe Line Company. In May, 1927, Magnolia inserted 54 miles of eight-inch loops on its Oklahoma trunk line system between Maud and Addington stations, to take care of Seminole flush oil. The construction of a 265-mile, eight-inch extension from De Leon station to West Texas was started in August, 1927, and this forced the installation of 60 miles of eight-inch loops between De Leon and Corsicana station, as well as requiring the new line from Corsicana to Beaumont.

The Corsicana-Beaumont link in Magnolias Mid-Continent system is made up of about 240 miles of three-eighths-inch lines, with a 40-mile eight-inch extra loop in Grimes and Montgomery counties, and a 35-mile, eight-inch extra loop between Hull station and Beaumont. Topography and a sharp bend in the course of the line required the extra loop in Grimes and Montgomery Counties, while the other loop on the lower end of the system takes care of crude coming through the Luling-Mirando unit. This Corsicana-Beaumont unit is favored with a surface elevation drop of 424 feet between the two points.

Six main line stations are now being operated by Magnolia between Corsicana and Beaumont, and recently the capacity of the former station and Simsboro, which is the next station south, were equipped with an extra pumping unit. However, the other four booster plants will be equipped with another unit of reciprocating pumps and oil burning engines.

Heavy shipments of West Texas low gravity crudes are to be made in future months by Magnolia, and the next pipe line project will be the looping, or doubling of its eight-inch trunk line extending from Crane County, West Texas, to De Leon station. Magnolia Petroleum Company's production in the West Texas district is now averaging 12,000 barrels daily, and 10,000 barrels of common carrier oil is to be handled daily from West Texas to the Gulf Coast for Atlantic Oil Producing Company. The maximum capacity of the West Texas line is 17,500 barrels daily, with all main line stations working, and excess oil is now being stored in the field by Magnolia and Atlantic.

Sinclair Increasing Line Capacity From Oklahoma to Terminal at Houston

Fort Worth, Texas.—Sinclair Pipe Line Company is assembling materials to start laying an eight-inch line parallel to its trunk line system between Healdton, Oklahoma, and Graford, Texas, stations, a distance of about 100 miles, to permit the movement of Oklahoma crudes to the Gulf Coast at a maximum rate of 35,000 barrels daily. Rapidly declining production in Texas fields served by Sinclair, and heavy withdrawals from reserve crude stocks in Texas necessitates increased crude movement from the upper Mid-Continent to take care of outstanding crude contracts involving deliveries at Houston. This trunk line also serves Sinclair Refining Company's refineries at Houston and Marcus Hook with a portion of their high gravity crude requirements.

Sinclair has a single eight-inch line extending from Healdton to Graford, with one station located near the halfway point at Bowie. This intermediate station will be enlarged with a complete pumping unit. Sinclair has ample facilities from Graford station via Mexia to the tidewater terminals at Houston. The line from Graford to Mexia is about 120 miles in length, and is made up of a combination of eight and 10-inch pipe of about equal mileage, while the Mexia-Houston unit is an eight-inch line, with eight-inch loops leading into the intermediate stations.

An almost continuous withdrawal from Texas crude stocks has been made by Sinclair Pipe Line Company during the past two or more years, to meet requirements at the Gulf Coast Terminal. More than one-half million barrels have been removed from its Burkburnett tank farm, located across Red River in Oklahoma, while stocks in the Mexia district have been pulled on at an average rate of 9420 barrels daily during the past two years. Sinclair held 3,167,500 barrels of high gravity oil in storage in the Mexia district at the close of November, 1925, and at the close of November, 1927, this reserve supply of crude had been cut to 906,815 barrels. Sinclair's storage facilities in the Mexia district amounts to 5,970,000 barrels, and an additional 378,000 barrels of idle tankage is owned in the Corsicana-Powell district, making a total capacity of 6,348,000 barrels in East Central Texas. This vast amount of idle tankage will be utilized for storing Oklahoma crude when the south movement of crude exceeds requirements at Houston. Prairie, Humble, Gulf and Magnolia are using their idle tankage in the Mexia-Corsicana district to store oil from other sections of the Mid-Continent, including Texas Panhandle and West Texas oils.

O. H. Powell is superintendent in charge of Sinclair Pipe Line Company's Mid-Continent system from Healdton to the Gulf Coast, and maintains headquarters on the 24th floor of the Fort Worth National Bank Building, Fort Worth.

EDITORIAL COMMENT

Unit Plan in Principle

MR. HENRY L. DOHERTY has been vindicated in his effort to secure unit operation in the development of petroleum deposits by action of the American Petroleum Institute. The Institute has adopted resolutions seeking changes in laws which would permit operation in cooperation for the purpose of preventing over-production and waste, which plan would meet the end suggested by Mr. Doherty, and further has sanctioned, through appointment of representatives on a committee to consider law changes, asking of national and State law-makers changes in laws which would effect nullification of the anti-trust laws as they have been interpreted, as regards this one industry.

The Institute in its resolution admits that prevention of waste under present plans of ownership is impossible. This is practically what Mr. Doherty said in his first proposal of his plan, which was made in an address delivered before the American Institute of Mining and Metallurgical Engineers in February, 1925. Since that time, much has happened in the industry. Organization of the Federal Oil Conservation Board was an echo, and development in methods of recovering oil have been largely centered upon the theory there expressed of the importance of gas in recovery of oil. It has also resulted in wide and varied discussion, with the majority opinion against Mr. Doherty's idea, not so much because the plan is not desirable, but rather because it has been deemed impractical. The legal minds which have concerned themselves with the subject have heretofore been practically of the unanimous opinion that the legislative obstacles to such procedure are insurmountable, and minds closer to the ground and the source of the oil have deducted from their knowledge of humanity in general and owners of oil bearing farms in particular, that it just could not be done.

While Mr. Doherty can well feel gratified that his lone position against that of the larger number of leaders of the industry has at last been recognized by them and their legal staffs as having more than passing merit, but even more has he served the industry in directing scientific research in a channel which has been the outstanding development of recent months.

When he called attention to the waste of energy of natural gas as an expulsive agent of the oil with which it is associated, he was fortified with facts fully established by research initiated at his suggestion and carried out under his direction by C. E. Beecher and I. P. Parkhurst. Results of their investigations were made public in October, 1925, and showed conclusively that both viscosity and surface tension of oil in place in the sand are greatly lowered by dissolved gasses, and that the oil in the underground reservoirs is much more fluid under the natural gas pressure than it is after the gas has been permitted to escape. This theory has been adopted in practice, and further research conducted toward conservation of gas pressure in oil sands, and much greater recoveries have been and will be made by keeping oil deposits in the more fluid state through restricting or limiting the escape of gas. It is in recognition of the importance of this, and the impracticability of regulating gas pressure under diversified control, that the Institute is now seeking license from the government to cooperate in recovering oil.

Mr. Doherty has also continually pointed out benefits to the industry which would attend stabilization through control of production, and also the advantage to the public of an assured supply and stable price.

We do not feel, however, that even should every man in the industry be won over heartily to Mr. Doherty's opinion, and should every legislative restriction be removed, that the unit plan could be made effective.

Mr. Doherty stated the cause in his first-mentioned talk, when he pointed out that oil, like game, is his who captures it. No law without a revolution can force the land owner to lease his land in a unit pool nor prevent an owner from drilling and producing, regardless of market conditions. The government's function is to provide laws which will insure its subjects its necessities at the lowest competitive price, and however disguised by oratory as a measure for conservation of a natural resource, the public which is to be pleased by the law-makers can see in limitation of output only a means of raising the price and the oil companies' dividends. How such a proposition will be accepted by any normal congressman hoping to continue a congressman, does not need to be guessed at.

Modification of Yates Acreage Basis Proration Offered

Simms Oil Company offers plan which changes plan tentatively agreed upon by most of operators; West Texas output increasing

By H. H. KING
Staff Representative

FORT WORTH, Texas — Although the majority of the operators in the Yates field have tentatively agreed to have their production prorated during the first six months in 1928 on a basis of proven acreage owned, some objections have been raised by the small lease owners with big wells to this method of allocating crude runs, and a new plan was to be voted upon this week. W. A. Moncrief, chairman of the executive committee in charge of proration enforcement, mailed copies of a new proration plan submitted by W. L. Todd, vice president of the Simms Oil Company, to each member Tuesday along with a request to cast a vote by wire as to approval or disapproval of the Simms plan. Members were also requested to vote on the holding of a special meeting in Fort Worth December 29.

The proration plan being fostered by Simms Oil Company would result in each lease owned by a company being handled as a separate unit, and both proven acreage and volume of potential production thereon would be factors in determining the proportionate share of pipe line outlet to be had.

Production in the West Texas district climbed to a new high mark during the past week, having averaged 272,192 barrels daily, with substantial gains being recorded by the Yates and Hendricks fields. The increase in the former field was largely due to Gulf's eight-inch line to car rack at Hurdle operating near capacity, while the completion of new wells and more field storage paved the way for a new peak in the Hendricks field. The third pipe line outlet to tank car racks from the Hendricks field has been put in operation, with seven more building. Roxana provided the third line for the field, and is loading 30 cars daily, but will double the capacity of its rack and also build a separate six-inch line on to McCamey tank farm.

A rapid production decline has been registered by the Republic production Company's Grisham-Hunter 1-"A" which was reported last week as making 6000 barrels initial flow on the north end of the Hendricks field. This well dropped to 3460 barrels daily after being flowed wide open for seven days, and may be deepened. Four new locations have since been made to the east of this well by Republic, Roxana, Gulf and Texas. Magnolia's Hendricks 2, located in the southwest corner of an 80-acre lease and offsetting production, developed 2 per cent water and 12 per cent basic sediment shortly after being completed with an initial flow of 2000 barrels from regular pay at 2865 feet to 2955 feet, but this cut oil is believed to be due to returns lost by Humble when drilling in the south offset to Magnolia with rotary, as the volume of cut oil has since decreased in the Magnolia well. Magnolia deepened its Hendricks 1 during the past week to 2935 feet and increased the flow to 4000 barrels.

The largest completion in the Yates field during the past week was scored on the east bank of the Pecos River in Crockett County, when Gulf Production Company's G. L. Thompson 3 blew in December 16, flowing 480 barrels of 30 gravity oil per hour from top of big pay at 1042 feet. The flow of oil came with such sudden force that the drilling crew did not have time to pull the tools from the hole, and the well flowed wild for a brief period before the drilling line could be cut. This well is on the third location up the river from the southwest corner of section 71, and did not show water, although the two previous completions by Gulf on this 640-acre lease developed water trouble shortly after being completed. The new producer hit the big pay when carried 207 feet in the brown lime formation. The production has been pinched to about 20 barrels hourly, and no attempt will be made to remove the tools and wire line left in the hole.

A noticeable let down on new drilling in the Yates field became apparent during the past week, and this is due to the proposed change in method of allotting pipe line capacity furnished by Humble and Illinois Pipe Line Company beginning January 1. Producers taking part in the proration plan will be able to produce and sell crude in proportion to their total amount of acreage proven for production, thereby doing away with the incentive to continue the piling up of shut-in production. Field operations dropped from 87 to 74 over the past week, and as soon as necessary offsets are taken care of on property lines the new drilling will be largely confined to outside locations in an effort to prove up more acreage.

A comparison of the new drilling being done by the four largest operators in the field proper and that of the smaller units listed as miscellaneous is shown below:

Company—	Rigs Derricks Machines	Drilling Tests
Mid-Kansas-Transcontinental	13	13
The California Company	6	7
Gulf Production Company	2	7
Roxana Pet. Corporation	3	4
Miscellaneous (10)	7	12
Totals	31	43

Great Falls, Mont. — Advices from White Sulphur Springs is to the effect that H. B. Nelson, land agent for the Empire Lease & Royalty Company, is examining records of title and ownership of lands between the Clear Range ranch and Ringling, with a view to drilling a test for oil in that region.

The status of operations in the Hendricks field, Winkler County, Texas, at the close of last week is shown below by companies:

	Locations and Rigs	Drilling Tests	Tests in Lime	Completed Wells	Initial Prod.	Present Average Prod.
Amerada Petroleum Corp.	..	..	1	..	.....	.....
Arizona Mining & Eng. Co.	1	..	..	..	.....	.....
Atlantic Oil Prod. Co.	1	2	5	1	3,100	*3,210
Atlantic & J. D. Collett	..	1	..	..	.....	.....
V. T. Bolin & Company	1	..	..	..	.....	.....
Cranfill-Reynolds	..	1	1	2	11,500	6,695
Eastland Oil Company	..	..	1	..	.....	.....
Gulf Production Co.	3	..	..	6	16,695	*4,770
Humble Oil & Refining Co.	1	1	3	2	5,900	*2,980
Independent Oil & Gas Co.	8	1	1	3	8,070	*3,105
Landreth Prod. & Roxana	1	1	2	2	6,700	8,275
Magnolia Petroleum Co	1	1	3	1	3,200	2,855
Joe Maxwell & Turman	2	..	3	..	.....	*35
Murchison & Cranfill	3	..	3	3	5,600	965
Republic Production Co.	..	1	1	1	6,000	*1,665
Roxana Petroleum Corp.	4	2	3	1	10,000	*5,735
Sheldon & Burden	..	..	1	..	.....	.....
Southern & Westbrook	2	3	9	3	6,650	6,225
Southern & Dixie Oil Co.	2	2	6	6	7,260	*5,010
The Texas Company	2	..	5	1	5,000	*575
Texon Oil & Land Co.	..	1	3	1	2,400	2,025
Totals	32	17	51	33	98,075	54,145
Totals previous week	36	11	51	29	84,790	51,435

*Production partially pinched.

Two Wildcat Producers in Coleman County

Coleman, Texas.—Two flowing oil producers on wildcat locations in eastern Coleman County were uncovered during the past week. Chestnut & Smith Corporation et al's second try for production on the J. P. Morris wildcat block in the Wm. Webber survey resulted in a well flowing 18 barrels of 41 gravity oil per hour from sand pay at 2100-04 feet, while Magnolia Petroleum Company's J. P. Morris 19 uncovered a new oil producing area in the David Breeding survey, with a daily flow of 50 barrels of oil by heads from sand pay at 2247-51 feet. These two strikes created a demand for nearby acreage, and will lead to more pioneering in this general section of the county.

Completion of the Chestnut & Smith Corporation et al's producer has been delayed by the burning of the rig on the morning of December 16. The fire was extinguished on the following afternoon, and the well continues to flow by heads. Chestnut & Smith Corporation and the Eastland Oil Company each own a one-quarter interest in this well and the small lease, but have more acreage nearby. Kerr & Gillette own the remaining half interest in the well and lease. Prairie Pipe Line Company has extended its gathering system from the Gwinnupp - Dibrell pool to purchase the oil, and has cancelled plans to abandon the pump station in this area as result of the new strike. The first test drilled by the above parties on this block of leases showed oil from sand at 2111 feet last February, but the well went to water when deepened nine feet.

Magnolia's Morris 19 is located in the vicinity of gas wells completed last year by Canary and associates in Section 728, and from the same horizon. About one-half million cubic feet of wet gas is showing in Magnolia's well. Canary et al's Morris 1 is making about 5,000,000 cubic feet of wet gas from sand pay at 2251-64 cubic feet. The Ross Drilling Company et al's wildcat oil producer on the Breneke farm, Coleman County, is shut down with an estimated production of 35 barrels daily at 1850-55 feet..

"Committee of 9" Wants Suggestions by Jan. 23

Washington—At the public hearings which the "Committee of Nine" will begin on January 23, undoubtedly many important questions of interest to the petroleum industry will be dealt with. Some of the more outstanding ones will probably be whether the federal government possesses power to legislate concerning petroleum production; whether the anti-trust laws should be amended, and whether State laws should be amended to a definite degree of uniformity.

The committee has adopted resolutions, declaring that it will welcome all constructive suggestions that may be offered by persons within or without the industry, relative to the conservation of oil and gas and the maintenance of ground reserves thereof.

Secretary of the Interior Work, chairman of the Federal Oil Conservation Board, has made a plea for more wholehearted co-operation by executives of oil companies, "actuated by a more thorough realization of the common interest."

Suggestions in writing have been invited from all interested sources, to reach the secretary of the committee by January 10, by which date, also, it is desired that all persons desiring to be heard at the public hearings make that fact known.

Membership of the committee includes Henry M. Bates, dean of the law school of the University of Michigan; James A. Veasey, of Tulsa, and Warren Olney of San Francisco, representing the American Bar Association; Edward C. Finney, Walter F. Brown and A. F. Meyers, representing the government, and T. A. O'Donnell, J. Edgar Pew and W. S. Farish, representing the oil industry. Mr. Bates has been selected chairman and Mr. Finney vice president of the committee.

Humble Builds Deep Sea Terminal at Ingleside

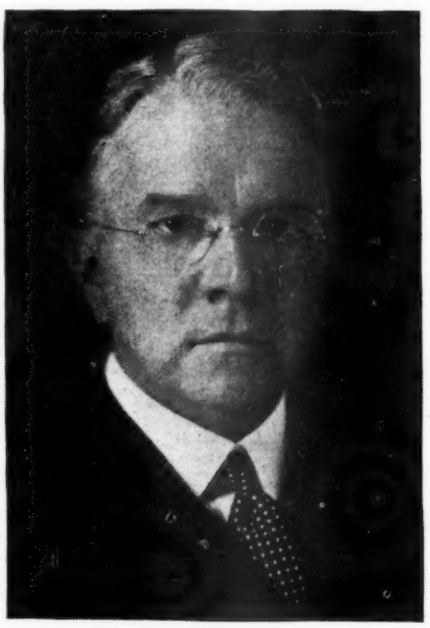
Houston—A deep-sea loading line is being laid from Mustang Island, near Aransas Pass, Texas, by the Humble Oil & Refining Company to handle crude oil to large tankers which are unable to go through the channel to the Humble's terminal at Ingleside.

The loading facilities will consist of two 10-inch lines, extending out three miles into the Gulf of Mexico, where they will be marked by buoys. Tankers of any size will therefore be loaded with speed. There will be two berths for tankers.

The estimated cost of the installation complete with tanks, lines, etc., will run around $1,500,000. It is hoped to have it completed by May 1.

The Humble has a large terminal at Ingleside, but tankers of the largest size are unable to get through the channel to it, the heaviest draft being 22 feet at this time.

The Ingleside and Mustang Island terminals are connected with West Texas and with the Laredo district by Humble pipe lines.



HENRY M. BATES

of the University of Michigan law school, and one of the representatives of the American Bar Association, who has been elected chairman of the Committee of Nine which will cooperate with the Federal Oil Conservation Board in drafting a program to submit to congress on conservation.—Photo by Underwood and Under-Wood.

La Barge Test

Kemmerer, Wyo.—A movement in advance of the usual spring activity in the LaBarge field is under way in the northwetsern part of the field where E. L. (Lee) Chesney, well-known Evanston stockman and insurance dealer, and C. C. Garretson, formerly superintendent of the Rainbow Company's operations, are moving in material for a test. Drilling is to be started as soon as possible. Operations in the field in general have been considerably slowed up by the bad winter weather, as elsewhere in the territory.

New Gas Area Opened in Duvall County, Texas

Houston—Robert Driscoll's Fee 8 in Section 23, Duval County, opened up a new gas producing area in Southwest Texas, when it was completed at 2440 feet, the estimated volume of its production being 35,000,000 cubic feet a day. This well is located about 12 miles southwest of the Piedras Pintas field, and is about half way between that field and the Cole field.

Potrero

Los Angeles. — The Associated Oil Company has re-cemented Cypress 1, the discovery well in the Potrero field, and probably will not drill out again for several days. The well recently flowed at the rate of 400 barrels, but the fluid was about 90 per cent water. The 4¾-inch casing has been set for the second time at 5276 feet. Total depth of the hole is 5204 feet.

Increase Capital

San Francisco.—J. M. Perata, president of the Italo-American Petroleum Company, an organization owned almost entirely by people of Italian descent, has announced that the capital stock of the company will be increased from $1,000,000 to $5,000,000, and that the new program includes producing, refining and marketing. The company already has valuable leases in the Long Beach field.

Seminole Well Average Reaches Lowest Since Discovery

Decline of 12,869 barrels in six day period, while smaller initial average of completions indicates further weakness

By WALLACE DAVIS
Staff Representative

Tulsa — Seminole's 1049 producing wells Monday morning gauged 368,809 barrels, a decline of 12,869 barrels during the preceeding six days, and showed tendencies of further decline in the near future with a gradual sliding in the output of old wells and fewer new producers being added to the five fields. The well average for the entire Wilcox area Monday was 351 barrels, the lowest on record for Greater Seminole.

Further indications of the field's weakness is seen in the fact that the average initial production for the area up to Monday morning was 1280 barrels, the first time since discovery that initial well average has been to this low point. The total initial production for the five fields up to this week is 1,506,965 barrels from a total of 1177 oil wells completed.

Extent of decrease in activity is shown in the 143 wells drilling at Seminole as compared with 150 of the previous week, and more than 200 operations a month ago. Eight rigs were up against nine of the previous week, and the number of locations added weekly continues to grow to smaller figures.

Production for the Seminole area at Monday's gauge with the number of producing wells, by fields, is as follows, compared with the yield at Sunday's gauge:

	Dec. 18		Dec. 19	
Field—	Wells	Prod.	Wells	Prod.
Little River ..	85	38,240	85	39,407
Bowlegs	288	109,689	288	106,560
Earlsboro	287	146,199	287	144,261
Seminole City	319	56,417	319	56,244
Searight	69	21,149	69	22,337
Totals 1,049		371,694	1,049	368,809

Proration to March 1

At a meeting last week of the committee on proration at Seminole and representatives of the leading operating companies there decision was made to extend the old shutdown agreement through a 60-day period. This carries the gentlemen's agreement to March 1, in which proposal not to drill offset locations to new pool openers or to open these pool openers to more than 100 barrels daily is made.

From present indications of decline in the producing area it is apparent that no proration measures will be necessary after that date unless production in other territories is tending to keep the market in a weakened condition. By March 1, ten weeks from this writing, production in the five Seminole pools should be well below the 300,000-barrel daily level, with a heavy drop still under way, considering that no new production is opened during that time.

Just what the new pool openers around Seminole's present production would do if rush activity was started is food for thought.. Evidences are that the potential market breakers might not be so strong as originally expected. An example of such evidence can be cited in Gypsy Oil Company's Doser 1, in the southeast of the southeast of the northeast of section 7-8-6, one and one half miles west of the northwest end of Bowlegs production, which early last week quit flowing after making an initial of 100 barrels an hour slightly more than a month ago. The Gypsy, early this week, was preparing to clean out the hole to revive possible production. However, now or any time within the near future is rather a hazardous time for experimental work on what the various sections might do if drilled, and the extension of the shutdown period stands out as the most sensible measure to be taken.

Only three wells were completed and put on production in the Seminole area during the past six days. The 1049 producers shown in Monday's producing list as compared with 1048 of the past week is explained by the abandoning of two old producers during the week.

Barnsdall Oil Company's Hotulka 1, in the southeast of the northwest of the southeast of section 22-7-6, which had the ear-marks of a discoverer of new production early last week, was slowed up by a fishing job after flowing 100 barrels in three heads from around 4200 feet. The job was completed Sunday and drilling had reached 4234 feet Monday morning. The well flowed and swabbed 190 barrels.

Reports from Seminole Monday morning showed Magnolia's Gosey 1, in the northwest of the northeast of the southeast of section 1-7-6, Little River, to be drilling at 4345 feet with considerable water showing. Tidal Oil Company's Grayson 4, in the southeast of the northeast of the northwest of section 13-8-6, Bowlegs, flowed 10 barrels Monday morning and had a hole full of oil at 4350-52 feet.

Mid-Continent's Manuel 1, in the northeast of the southeast of the northwest of section 27-7-6, was drilling Monday at 4328 feet without finding the Wilcox. This hole topped the Viola lime at 4180 feet and the Simpson at 4240 feet. Black shale was entered at 4305 feet and penetrated to 4319 feet, where the hole filled with 2600 feet of water. At 4121 feet the hole filled with 4000 feet of water, and indications were that it woud be a failure. The water was cased off late last week, and deeping started.

Prairie's Dugan 2, in the southwest of the northwest of the southeast of section 35-8-6, topped the Viola lime at 4412 feet early last week, and December 14 was drilling at 4482 feet, a dry hole to this depth. Magnolia's Cruse 1, in the northwest of the southeast of the southeast of section 2-7-6, swabbed 767 barrels December 14 from the Wilcox found at 4207-15 feet.

Logan County

The outlook for offset production to Roxana's deep Wilcox sand pool opener in section 30-19-4w, Logan County, weakened materially at the opening of this week, when Stephens 1, in the southwest corner of section 29, reached 6009 feet without finding the Wilcox. This formation in the McCully 1, discovery well, which was completed June 29 from 5985 feet and which is now producing around 2230 barrels, was encountered at around 5968 feet. Derrick is up for McCully 2, in the southeast corner of section 30, and Roxana, chief acreage holder around the producer, has four other offset tests going down, all below 4000 feet and three of which are below 5000 feet.

Allen Field

C. B. Shaffer's Chapman 1-A, in the northwest corner of the northeast of section 36-5n-7e, the southwest extension of the Allen field of Pontotoc County, held the interest of operators at the close of last week after showing oil at 2300-2315 feet, while his Mount 1, in the southeast of the northeast of the northwest of section 36, was showing oil at 2445-49 feet. Casing had been set in both wells.

California Companies To Drill in Venezuela

Los Angeles.—The Union Oil Company and the California Petroleum Corporation will jointly develop a large block of acreage in Venezuela, according to a recent announcement. The land lies in the Mende Grande field and is near the holdings of the Caribbean Petroleum Company. Equipment for drilling the first well will soon be shipped from California.

Gulf Coast Deepest Producer Back On Production

Pure's deepest well at Sweet Lake comes back flowing 365 barrels daily; Kelso Bayou well held in by lack of storage

By JACK LOGAN
Staff Representative

HOUSTON—Cameron Parish, Louisiana, furnished some of the most interesting developments in the Gulf Coast region during the past week. In the Sweet Lake district Pure Oil Company has again made a producer of its Sweet Lake 3, which has the distinction of being the deepest producing well in the Gulf Coast country, with the depth of 5897 feet. During the latter part of last week this well, flowing through a five-eighths-inch choke, was producing about 365 barrels a day, making only about 1 per cent basic sediment. The oil tests about 28 gravity. The production from the well is transported by barge to Pure's refinery at Smith's Bluff. The Sweet Lake 3 was completed originally over a year ago, but subsequently sanded up; and after being worked over it came in for a second time about the middle of September, this year, at which time it flowed for 14 hours, making approximately 1000 barrels of oil, or at the rate of about 1800 barrels a day. But it sanded up again at the end of that 14-hour period, necessitating a second work-over, which has resulted in the present production. Pure Oil Company's No. 2, No. 4 and No. 5 Sweet Lake in this district, are still shut down, waiting on orders.

Kelso Bayou Activity

Another section of Cameron Parish in which activity has been of more than ordinary interest is the Kelso Bayou district, where the Calcasieu Oil Company recently discovered production on a dome that had been found by means of seismograph exploration. In the Caldwell 2, discovery well of the dome, water has intruded to the extent of about 25 per cent of the fluid, but the production still averages about 600 barrels of oil, net, daily through a three-eighths-inch choke. The well was recently given a one-hour test through a three-quarter-inch choke, however, and flowing through the larger hole it produced at the rate of 2850 barrels a day. It will probably be allowed to flow at the increased rate in a short while, for the problem of storing the oil in large quantities as it comes from the well has been eliminated through the completion of a dehydrating plant which has a capacity of 3000 barrels a day and can thus treat as much fluid per day as the well will produce when its flow is increased. The treating plant consists of two units of the electrical dehydrators of the Petroleum Rectifying Company of California. Both units were in operation early this week.

The Caldwell 2 was completed on November 5, flowing 1000 barrels of 22 gravity pipe line oil from 3996 feet; and the production was carried in barges directly from the well to the Magnolia Refinery at Beaumont. But water began to intrude about December 1, and since then the oil has been accumulating in earthen storage. Installation of the dehydrating equipment was started on November 20 and was completed last week.

Late last week Calcasieu Oil Company's Olevia 1, offset to the Caldwell 2, was drilling around 2500 feet, and that company's Watkins 1, which is across the bayou from the Caldwell 2, only a short distance, was rigging up.

Outside of the operations of Calcasieu Oil Company and Pure Oil Company, Cameron Parish has something interesting to offer in the test which is being drilled by the Louisiana Land and Exploration Company in the waters of Calcasieu Lake. This test is the Calcasieu Lake A-1, located on another seismograph-discovered dome. In this test nine and one-quarter-inch casing has been set and cemented at 903 feet. The location is several miles from land.

Wildcat Operations

With the proven fields of South Louisiana furnishing fewer and fewer new wells, interest is centering more on the various virgin territories where indications of domes have been found through seismograph investigation. On Sorrento Dome, Ascension Parish, Gulf Refining Company of Louisiana has made location for its United Lands Company 4, following abandonment about two weeks ago of the No. 3 at 2050 feet. No. 4 is located approximately 1800 feet west and 1000 feet north of the southeast corner of section 15-10s-4e. Gulf discovered this dome early this year, and has drilled three tests on it without obtaining production.

In Iberia Parish tests are being drilled on two seismograph domes. In Vermilion Bay the Louisiana Land & Exploration Company has set surface casing at 408 feet in its Vermilian Bay 2, which, like this company's test in Calcasieu Lake, is located a considerable distance from land. On the Loreauville dome, in this parish, Gulf is drilling two tests, the Brussard 1 and the State Z-3. This dome, also known as Fausse Point, which was discovered in 1926, has yielded oil in three wells drilled by Gulf.

In La Fourche Parish Gulf Refining Company of Louisiana has made location for No. 2 Mrs. Starks et al in the Thibodaux district, where indications of a dome were discovered by seismograph this year. The first test drilled there, Gulf's Stark et al 1, was abandoned about two weeks ago at 1400 feet. The new location is in section 71-15s-15e, being 2100 feet east and 250 feet south of the northwest corner.

Roxana Petroleum Corporation has set and cemented casing at 1050 feet in its Wilbert 1, which is located on the White Castle Dome, Iberville Parish, where indications of the existence of the dome were found by seismograph this year. Union Sulphur Company is also preparing to drill two tests in Iberville Parish. That company has spudded in for its Schwing 1 in section 74, and has a rig up for its Wilbert 1 in section 78 of the parish.

In St. Martin's Parish Rycade Oil Corporation is fishing for a stuck drill pipe at 3940 feet in its wildcat Atchafalaya 1, the drilling of which was delayed for months on account of flood waters, and is rigging up on its Atchafalaya 2, which is located about one and one-half miles northeast of No. 1.

In Terrebonne Parish the Southern Gas Company is drilling around 2400 feet in South Down 3, and has made location for South Down 4, 300 feet east of the No. 3.

Completions in the proven fields of South Louisiana during the past week consisted of one failure and one 100-barrel well. The failure was Cline, Smith & Cline's Conklin 6 at Evangeline, which was abandoned at 2150 feet, and the producer was Drysdale (Savoy) Oil Company's Hill 2 at Edgerly, which after being deepened at 3125 feet, began pumping 100 barrels a day.

Engineers' S. America Trip Cancelled

The American Institute of Mining and Metallurgical Engineers have announced that due to the withdrawal of the Red Star Line steamer Lapland from West Indies Cruise service this winter it will be impossible to carry out plans for a trip to the Venezuelan oil fields by members of the Petroleum Division.

The Institute had elaborate plans for a trip to these fields along with stops at other ports of interest immediately previous to the annual meeting in New York in February.

According to H. Foster Bain, secretary of the Institute, it is hoped that such a trip can be arranged at some future time.

Use and Care of Gas Engines in Oil Field Work

Proper selection and installation of unit is most important in securing efficient and economical operation

By JOHN REID*
Before Annual Meeting, A. P. I., Chicago

AS a general rule, the manufacturer's knowledge of his engine ceases with the sale of the engine, and it is only heard from in case of complaint. With the alleviation of this complaint and the insurance of long and satisfactory service in mind, this paper is presented to those upon whom falls the obligation of installation, inspection and care of the engine after it has left the factory or warehouse.

In purchasing an engine the buyer purchases horse power. That he is purchasing power must be his primary consideration, and with this in mind he must analyze his lease conditions very thoroughly so that he may assure himself of the purchase of sufficient power to efficiently meet his requirements.

An engine is built for use, not abuse. It cannot adapt itself to conditions which it is not built to meet, and therefore machinery must be purchased immediately capable of meeting and overcoming the conditions of service and operation.

This paper is directed toward the operation of an engine to be used in the service of pumping — individually and in multiple.

Now, the power needed to pump a well is a vague quantity. It is only in certain established fields that the quantity of power required is known, and many factors, ordinarily unconsidered, go to make up power requirement conditions far in excess of the power needed to merely actuate the rods and fluid.

With the advent of rotary tools, holes are not so straight, which means that, very often, the sucker rods must pull around bends with a friction out of all proportion to the power requirements necessary to lift the fluid. Data collected has shown that on some leases there exists a difference of 4000 pounds starting load on wells of equal depths and tubing diameter.

Considered in the immediate requirements must be the thought of the future work of the engine. This is especially necessary in fields where the wells flow for a period. When the wells cease to flow the engine is put on one of the hardest jobs it will have. The chances are that while the wells were flowing it has had but little use, and just as little care, and yet it is put under the very difficult strain of swabbing, and when this has been accomplished it is put on the beam and expected to deliver full service, sometimes when 60 per cent of the fluid is water, and deliver this service when it is practically worn out through slight care followed by a period of very strenuous service in swabbing. It is imperative that this be taken into account at the time of purchase of the engine.

Other things to be considered are the altitude; the kind of gas, whether casing head, sulphur or thin gas; the B. T. U. value of the gas—all these things must be considered and known by the buyer so that he may be able to state his needs to the manufacturer who has but little knowledge of the buyer's specific operating conditions.

Installation Important

The buyer has purchased and received an engine of sufficient power to meet his demands. Its installation is a matter of primary importance. If the installation is left to the supply company, the buyer should have a competent inspector pass upon the work and see that it is properly done and in all ways satisfactory.

Blue prints or a templet or both are furnished with the engine for setting. I believe the best setting for an engine to be a concrete block on which the engine is set, leveled and lined up properly. The engine should then be thoroughly grouted in. Some engines have grout holes left in the bed so that the engine will set close to the concrete. The dam for the grouting should be high enough to raise the grout one-half inch or more up into the bed. The outer-bearing should be set in the same way. In such a grout it is usual to use a quick set.

Wood blocks are hard to keep lined, oil soaks under, and it becomes hard to keep the engine on them.

Gas lines should be of ample size to allow an easy flow of gas at low pressures, and it is desirable to have the air received through a strainer so that dust and foreign matter may be removed as far as possible.

Water circulation and lubrication are subjects of paramount importance, and the owner must give particular attention to both.

The tanks should be large and the installation so designed as to insure a continuous flow of water at all times.

Plate 1. A shows the thermo-syphon cooling system. It is to be noticed that the discharge pipe is under the surface of the top level of water. The difference in weights between the hot and cold water gives a ready circulation at all times, but to insure proper operation of this system the discharge pipe must be kept beneath the top water level.

A natural phenomena with which we are all familiar will serve to illustrate the reason for this. We have all noticed the bubbles which form on the bottom of a pan of water when the boiling point is reached. Under these bubbles is a pocket of air which serves as an effective insulation and prevents the mass of water coming in contact with the metal.

Cooling System

The same thing happens in an engine and the water instead of bringing a uniform cooling surface to the cylinder will defeat its own purpose if the discharge pipe of the thermo-syphon system is exposed above the water. The syphon system is impaired and sufficient water will not flow to bear upon all parts of the cylinder. Violent ebullition takes place; the steam condensing at the mouth of the discharge pipe flows back into the jacket to be again converted into steam which is belched violently from the pipe in both directions. Cracked cylinders are certain to result from the action of the cold water coming from the tank and striking the cylinders after belching has taken place. Now, a check valve inserted between the tank and the intake of the cylinder will prevent the belching from exhausting through the intake pipe. It will also serve to keep some water in the jacket, and when the flow is resumed after the ebullition there will be no violent contact between cold water and hot cylinder wall.

Note that the side of the tank has an overflow from the bottom so that the heavy water is discharged with the addition of fresh water. The tank should always be filled from the top and drained from the bottom.

B on Plate 1 shows the set-up for the centrifugal pump. Note that the discharge pipe may be over the top of the tank; that there is the same waste system and check valve. In fact, the installation is practically the same as

Type A, so that continuous flow is insured.

In importance, the matter of lubrication takes place beside that of the cooling system. Engineers in charge of prime movers should acquaint themselves with the quality and quantity of the oil used. Companies who are both producers and refiners generally send to their own refineries for oils, and it often happens that they choose an oil entirely unsuitable to their needs when they could as well have one suitable and correct for their use. Here a better understanding must be had between those in charge of producing and refining so that suitable oils may be obtained.

Pumping Engines

As to the uses of the gas engine—the widest uses in the oil fields are on the individual pumping well and the pumping of wells in multiple by the use of a power.

Related to the pumping of the well on the beam, there first comes the swabbing. This is one of the most grievious punishments to which the gas engine is put. It is run at top speed, the swab jerked suddenly and dropped into the hole, often taking far more fluid than it should, and in this manner bringing a sudden strain on the engine—strains sufficient to collapse the derrick and casing at times.

Pulling rods and tubing presents another problem of abuse to the engine. The engine is run hard and very often at top speed with no load. The operator will throw out the clutch and make no attempt to throttle the engine, thus allowing it to run at full speed, which literally lets the engine tear itself to pieces.

When applied to the beam, if the engine has had previous service, and good care, it only consumes about one-half its horse-power capacity and will give years of satisfactory service if properly cared for. It is much easier on all equipment if the pully ratios are balanced, and the owner will find this a very profitable investment.

In multiple or power pumping we recommend the four-cycle type of gas engine. There must be close enough governing of the engine to care for a wide fluctuation of load. The flywheels must be heavy enough to carry over the peak and steady the engine during the unbalanced cycle or during a period of no load. The entire mechanism should be balanced so as to prevent a racing cycle.

Engine Troubles

Before making specific reference to the care of a gas engine, I wish to make an observation covering some tabulated engine trouble reports which have come to my attention. One report covers 500 engines operating 2023 wells for one month. Out of 194 shut-downs, ranging from one to 48 hours, there was only one shut-down of one hour to inspect one out of these 500 engines. It was also observed on one engine that there was a shut-down to tighten the bearings. This took three hours, and there was no record of the engine having been shut down again to be re-babbitted. There was, however, records of several engines being shut down from five to 24 hours to re-babbit the bearings, and on these engines there was no record of the engine having been shut down for inspection or adjustment. Proper care will pay you dividends in time, money and production.

Gas engine manufacturers are using the best materials at their command to build their products. However, as with an automobile, the limitations of the materials are soon reached unless proper care is given the mechanism. As with the automobile, so with the gas engine—once the product is purchased the care of it falls upon its owner as must the penalty of neglect.

Before the manual details of proper care can be accomplished it is necessary to instill into the personnel of the lease a correct spirit regarding the attention to be given the engine and the establishment of proper relationship as concerns all immediately connected with the operation of the prime movers in the field. This done—proper care in installation and operation is assured.

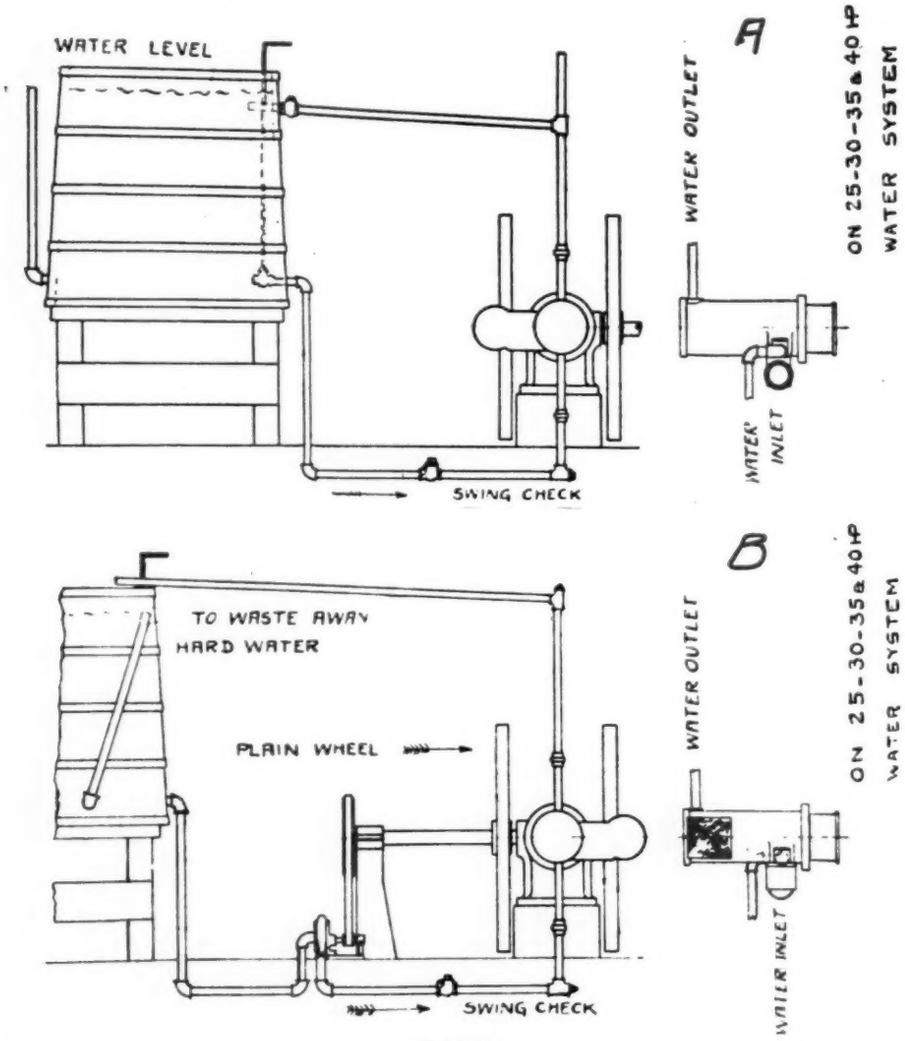


PLATE 1

Operating Care

Now, as concerns the actual operating care of the engine:

It has been stated that on installation the alignment of the engine is important. To keep it aligned is one of the primary considerations in the proper care of the engine.

Long experience has caused us to develop a device which will test the alignment of the outer bearings. Plate 2 illustrates the use of this apparatus.

The device, which can be carried in a grip and weighs about four pounds, is clamped to the shaft with the telescope rod drawn out to extend slightly beyond the diameter of the fly wheel.

It is customary to start the test with the crank drawn toward the cylinder as shown on Plate 3. By using the tool steel point as a prick punch, a slight blow will mark the flywheel. Using the point as an indicator the wheel is rolled from one end of the stroke to the other. It is obvious that the measurements must agree from the flywheel to the end of the test bar arm if the bearing is in line. When the bearing is brought into a position at right angles to the center line of the engine the wheels should be turned to a position mid-way between the ends of the stroke. The bearing must be raised or lowered to make this measurement agree. When the three measurements coincide the bearing is in line.

Mis-aligned and improperly adjusted

outer bearings are certain to result in damaged shafts and destruction of the bearings and with this simple test these may be corrected and trouble avoided.

The journal bearings of the crank shaft demand particular attention. Neglect of these, results in costly damage in broken crank shafts and rolled, scored and completely burned out bearings, not to mention the cost in time and loss of production for the installation of a new crank shaft.

Plate 4, Figure 1, shows a crank in normal position in its journal bearings. Figure 2 shows the bearing with lines to illustrate the motion of the shaft when the bearings are loose. A shows the more definite motion of the crank. It pivots at one particular point and thus allows the end to move about in a plane describing a circle. This is further illustrated at B. It is to be noticed that in a loose bearing the shaft centers change as the bearing becomes worn and the bearing grows larger, due to the intense wearing away and rolling out of metal as the strain of the shaft shifts from place to place rather than being evenly distributed over the entire surface of the bearing. These strains increase as the projected area of the bearing decreases.

The effect of the crank strain on the journal is shown in Plate 5.

Notice how the crank tends to wear into the sides of the bearing box and the strain of the crank as it begins to bend destroys the cap and bearing. The effect on the crank is demonstrated in Figure 4. This is, of course, greatly exaggerated,

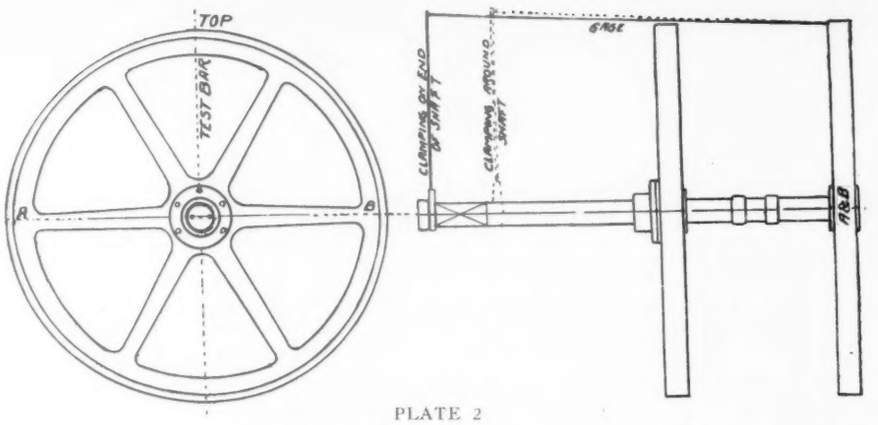


PLATE 2

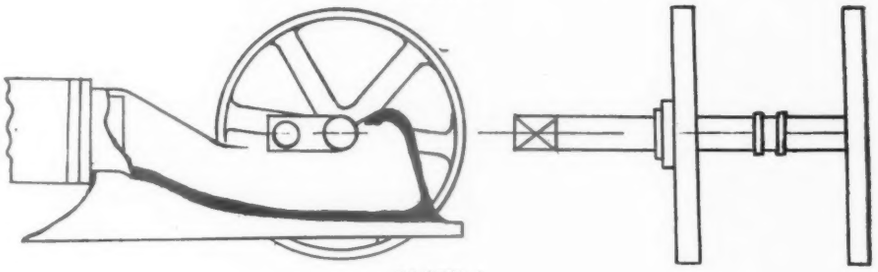


PLATE 3

but it is what actually takes place on a small scale. The crank tends to warp and spread, the strains becoming greater and greater until fractures occur either in the arm or the bell at the indicated points.

This may be entirely eliminated by a little attention to the journals. They should be kept snug at all times. If either cap is loose it should have immediate care. The forces leading up to a broken crank accumulate and a crank breaks little by little, over considerable time.

Directly related to outer bearing and crank shaft failure, but not ordinarily attributed to it, is the problem of the tight belt. I have seen a belt with a 45-foot center support four men and be deflected

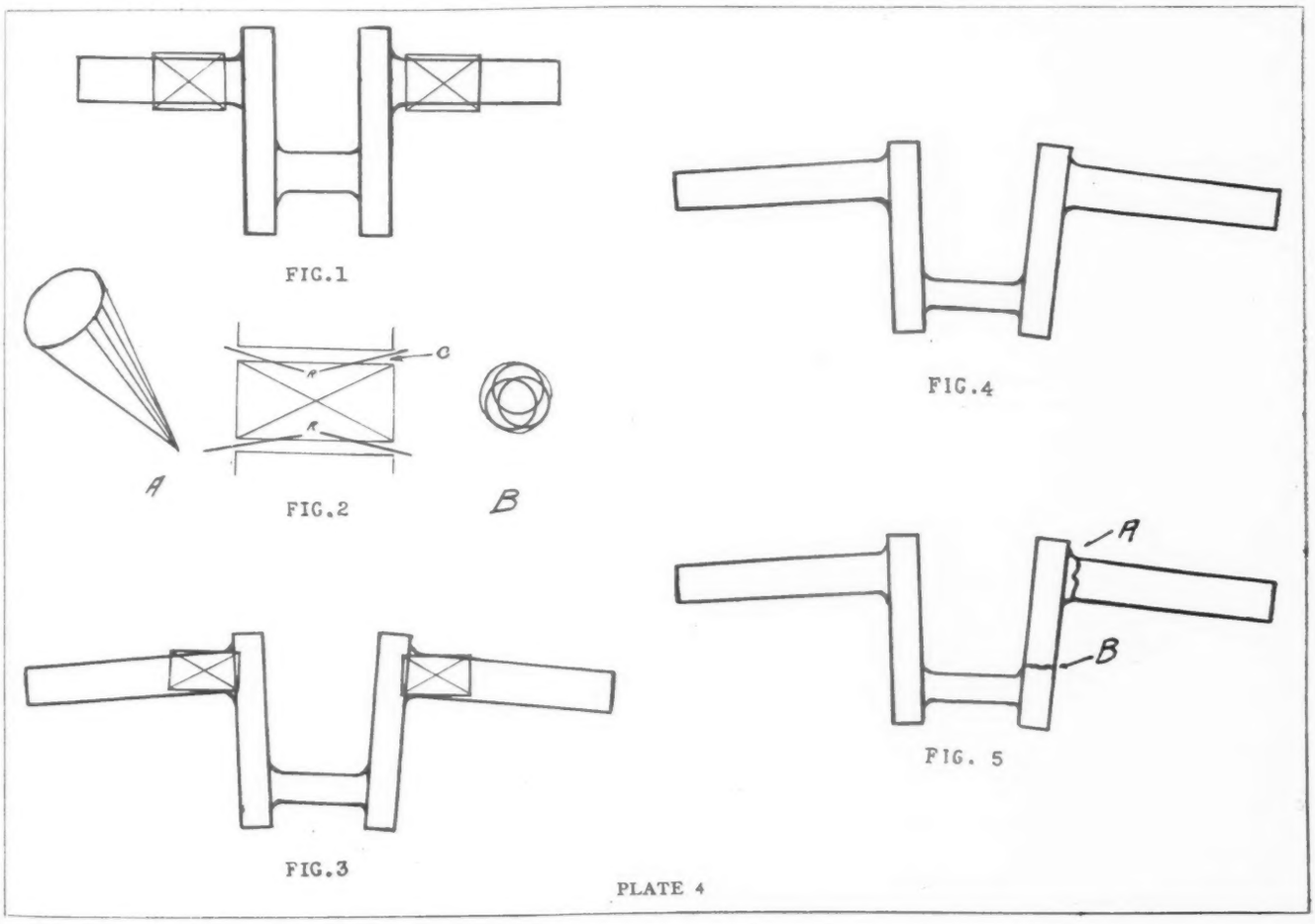


PLATE 4

only three inches. At the speed belts are run it is readily seen that there is enormous pressure created, disastrous to outer bearings which, as a rule, have light foundations and to the cranks which suffer directly proportionally with the bearing.

Thomas F. Smiley, in the November 24 Oil and Gas Journal, under an article headed "Technicians Transform Oil Methods," quotes a report of the Pure Oil News, which gives engine trouble at 6 per cent and belt trouble as 7 per cent from the total of all trouble. Now it is quite likely that part of this engine trouble might be charged to the belts, due to the fact that it was through belt neglect or misuse that the engine was shut down.

Belts

The Bulletin issue of October 1 of the American Petroleum Institute contains some very exhaustive reports on the use and care of belts which are well worth the attention of all who use belting. Articles by Trax, Burnette and Prior are especially good. The charts and tables contained therein should be studied by all who operate machinery.

In addition to the effect of tight belts on the crank and bearings it may be said that it causes overheating of the pulley face. This tends to expand it and draw it away from the spokes, causing fractures which destroy the pulley. An instance may be cited where misuse of the belt had wrecked nine reverse rigs. Upon examination it was found that the operator was using inner tubes as belt dressing and had applied so much that when the reverse was thrown the belt could not release but carried through in the same direction, but underneath the pulley, thus bringing a strain sufficient to wreck the rig.

Tight belts must be avoided to insure proper service, both of engine and belt, and wherever possible large diameter pulleys should be used in conjunction with wide face belts.

The very important matter of lubrication must be given close attention. A table is herewith given showing the choice of oils which should prove satisfactory in the use of the gas engine.

	Pennsylvania or Other Mineral Base Oils	Western Oils Asphalt Base
Gravity	25° to 28° Baume'	20° Baume'
Cold Test		0° Fahr.
Flash	400° to 410° Fahr.	360° to 380° Fahr.
Fire	480° to 490° Fahr.	405° to 425° Fahr.
Viscosity at 100° F.	360 to 370 Seybolt	515 to 570 Seybolt

Too much oil should not be used. It builds up carbon very rapidly in the cylinder and clogs the ports. It will build up underneath the piston rings causing wear on the cylinder, the piston to seize, the rings to stick and allow the charge to blow past the rings. Cylinders have been known to be worn one-fourth-inch and still give service, but lack of the proper care in lubrication was eventually costly.

A good grade pure mineral oil should be selected for the engine and the operator should be observing enough to judge the proper amount of oil to give his engine. One 40 horsepower engine that record has been kept on has consumed only one gallon of oil to 600 or 700 horsepower hours and in this case no attempt was made to conserve oil.

Buyers of the gas engine have been demanding a splash system on the engine and have been far from favorable to the force feed system. In this connection it is interesting to note that in automotive motors the trend has been more and more in the opposite direction, the demand being for the force feed system. It is imperative to watch the oil level closely on the splash system and it requires a greater amount of clean, fresh oil.

Allied to the lubrication system is the cooling system. Considerable has been said regarding this in an earlier part of this paper. Its efficiency depends primarily on its installation. The water itself is another consideration, however. In fields where there is much limestone gyp deposits in the jacket impeding the passage of the water and insulating the cylinder wall from the cooling effect of the water.

Treatments for the removal of gyp are matters of common knowledge, but attention must be given at all times and in all fields to the cleaning of the jacket so that solid matter will not collect therein. It is a profitable investment to put eaves on the engine house, in regions of hard water, and catch the rain water for use in the engine circulating tank.

The forementioned are the principal things to heed in the use and care of the gas engine and to summarize briefly:

Choose your engine with a knowledge of operating conditions.
Use the engine, do not abuse it.
Keep outer bearing aligned.
Keep bearings snug.
Belt correctly.
Use suitable oil.
Cool properly.
Clean regularly.
Inspect often.

These things done you will save loss of production, loss of investment, loss of time, and the cost of repairs.

Attack City Order

Los Angeles.—A suit has been filed in the Federal Court here by the Marblehead Land Company and the Standard Oil Company, asking that a recent decision of the city planning commission, which recently rescinded the permit granted the Standard Oil Company to drill a well north of Culver City, be set aside. The suit is filed against the City of Los Angeles and the complaint alleges that the decision of the city planning commission interfered with the constitutional rights of the oil companies to drill lands leased at a cost of more than $200,000. The Standard Oil Company had completed a rig and was ready to start drilling operations when the city commission ruled that the beauty of the surrounding country was in jeopardy and that the well could not be drilled.

Suits at Rincon

Los Angeles.—Suit and counter suits have been filed in California courts over the validity of drilling tidal lands at Seacliffe, which is in the heart of the new Rincon oil field. Some permits have been granted in the past, but certain State officials are of the opinion that those already granted are invalid. The discovery well drilled by the Pan-American Petroleum Company is located on tidal land. The General Petroleum Corporation holds valuable permits near the Pan-American's discovery well and has been seeking permission to get to its property—and to drill after it got there. Those opposed to drilling the tide lands contend that the production of oil in and near the edge of the ocean would destroy the beauty of the beach, render it unfit for bathing and injure fish within an appreciable radius. It is believed that no more permits will be granted, and it is possible that those already in effect will be cancelled.

California Permits

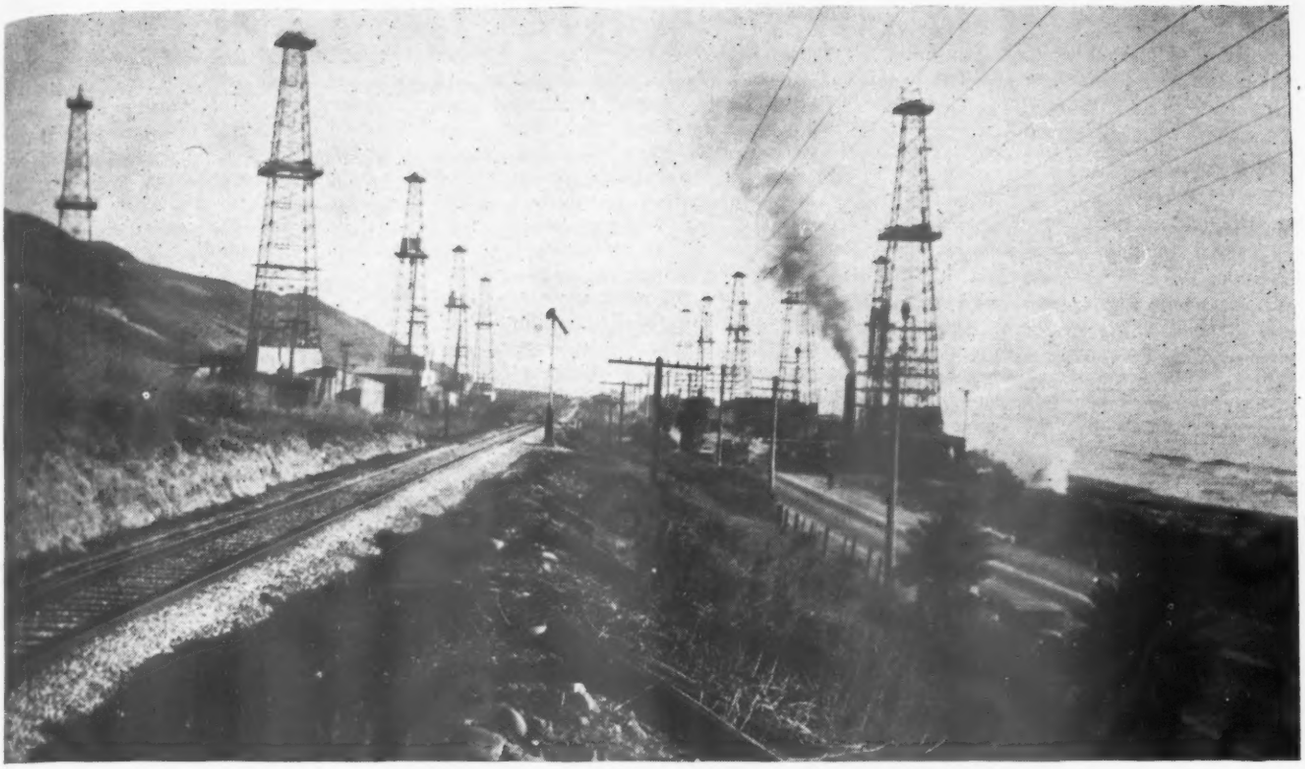
Sacramento, Calif.—Thirty-five new wells were started in California during the past week, according to a recent bulletin issued by the State oil and gas supervisor. The number was the largest issued for several months. Of the 35 notices to drill filed, 15 were for wells in the Long Beach field. The total new wells this year is 1183, as compared with 1248 at the same time last year, according to the bulletin.

Wildcat in Kern County

Taft, Calif.—Los Angeles interests, operating under the name of the Salegna Investment Company, have secured federal permits in Sections 17, 7, 8, 9, 5 and 4-11-24, and will immediately drill a test on their new holdings, possibly on Section 17-11-24. The Salegna Investment Company is closely identified with the Chickasan Oil Company, which operates in Los Angeles basin fields. The permits obtained lie several miles south and west of Maricopa and are all in Kern County, with the exception of one in Section 7-11-24, which is in San Luis Obispo County. The region has not been drilled extensively.

Half Moon Bay

San Francisco.—The Shell Company will drill another well near Half Moon Bay, about 25 miles from this city. The newest location is about two miles from the company's first well, which is drilling at 5215 feet. The Shell Company has been interested in the region for several years, and recently acquired additional acreage north of the deep well.



RINCON FIELD, SHOWING HOW DEVELOPMENT IS CENTERING ALONG THE BEACH NEAR THE DISCOVERY WELL

Rincon Definitely in Commercial Producer Class

Pan American finally completes discovery well with flow of *750* barrels with water shut off; dozen tests being rushed

By BRAD MILLS
Staff Representative

LOS ANGELES.—After a month's persistent effort, the Pan American Petroleum Company has solved the water problem in its State 1, in the Rincon field; and in doing so has definitely removed all doubt as to the commercial value of the area. The well was officially completed at 2800 feet, and flowed consistently at the rate of 750 barrels. The oil was 29.5 gravity and cut only 2 per cent.

State 1 attracted much attention six weeks ago when it prematurely came in flowing at the rate of 1100 barrels of comparatively clean oil. The well had been drilled to 3220 feet, with the 13⅜-inch casing cemented at 2782 feet. The well had been cleaned out only a few feet below the 13⅜-inch water string when it started flowing. The company felt that if the well was capable of producing more than 1000 barrels from only a few feet of sand, it should do much better if cleaned out to bottom at 3220 feet. The tubing was pulled and the hole cleaned out to bottom. Instead of producing clean oil from the full 400 feet of sand, the well flowed more water than oil. It was early evident that the sand contained water at certain levels. A long and tedious job of locating and shutting off the water ensued. The well finally was plugged back to the water string and slowly drilled again. At 2800 feet the company finally succeeded in placing the well on production as a commercial producer.

Successful completion of the Pan American's State 1 has had a marked effect upon other operators, who are rushing more than a dozen wells toward the oil sand. Many more locations will be made as the result of the completion. The fact that the new well is producing upward of half a million cubic feet of gas indicates that the field will not be dependent upon the pump. The casing pressure is 520 pounds, and satisfies the operating companies that they were justified in rushing equipment to the field soon after the well made its first flow.

The field had temporarily been thrown out of the limelight, due to the serious water problem. It is now believed that a fairly large production will be developed within the next few months.

Long Beach

The complexion of the Long Beach field has changed again, having assumed a more menacing aspect than it presented a week ago. Three good wells were completed and the field production increased sharply as the result. Two weeks ago a series of small wells were completed in the heart of the field, leading the most seasoned experts to believe that the peak production would be much smaller than early predictions pictured. Two large wells during the week have brought the situation back to the doubtful stage again. The edge tracts continue to produce the sensational wells. A better idea of the center wells will be gained by the completion of a few more producers in the heart of the field.

The best well of the week was the Shell Company's Binkley 2, which was completed at 5900 feet with an initial production of 2500 barrels. The crude was 30.8 gravity and cut 4 per cent. The Richfield Oil Company, now among the largest producers in the field, completed two wells during the week. The largest was Booth 9, which was completed as a 1900-barrel producer at 6037 feet. Like the Richfield's other large completions, the well was located near the edge of the field. The company did not fare so well in the

completion of Haas 9, which had an initial production of only 900 barrels. The well was completed at 5700 feet. The well was a workover and its showing was not a distinct surprise.

General Petroleum has definitely established that its Kerwin 1, near Edison, will not make a commercial well in its present condition. Much was expected of the wildcat, and its failure was a disappointment. The well was originally drilled to 4006 feet, and a water string cemented at 3785 feet. After the cement was drilled out, the fluid was bailed to 1800 feet. After standing for 12 hours, the fluid rose nearly 1000 feet in the hole. The well flowed for a time at the rate of 2000 barrels, but the fluid was practically all mud and water. An attempt will be made to locate the water.

Sulphur Mountain

Following the success of Bradford & Geis, who recently completed a good well on the Sulphur Mountain structure, a number of operators holding leases within a radius of several miles are starting tests in an effort to prove additional acreage on a series of fairly promising shallow structures. Many wells will also be drilled to prove deeper sand. Shallow oil sands exist in many localities adjacent to Santa Paula and many will be deepened, as was the case in the Sulphur Mountain district. Contrary to a widespread belief, the Sulphur Mountain field is not a new one. The deep sands are being opened up for the first time, however. Many wells will be drilled in the vicinity of Piru and the Ojai Valley, where shallow production is expected. The Shell Company has leased several hundred acres near Moorpark, but has not announced its drilling program. Los Angeles and Long Beach interests have leased a large block of acreage in the Torry and Eureka canyons and are expected to drill several shallow wells on their holdings. Leases along the entire east side of Ventura County are in demand, due to recent discoveries in the deeper sands. W. W. Bryant, who recently completed a well on Santa Paula Creek, has given the new producer a thorough pumping test. The well first produced at the rate of 100 barrels, but was not making more than 20 barrels at the end of two weeks. The oil is fairly clean and a lighter grade than that ordinarily found in the immediate region. There seems to be a tendency toward the development of deeper sands in many of the small fields that have been producing small quantities of heavy oils from the shallow zones. The deeper sands usually yield a much lighter crude than the upper layers.

Ventura

Production from the Ventura field is slipping slightly, even in the face of two new wells. Several large wells completed a few months ago are settling to a figure considerably below their initial production, causing a gradual decline. Associated Oil Company has completed Hartman 10 with an initial production of 1850 barrels. Total depth was 6665 feet. The oil was 29.3 gravity and cut 2.5 per cent. The well was considerably smaller than many other Hartman completions. The Shell Company's Edison 17, the most recent completion, fell far below the mark established by many other wells completed on the lease. The well was completed at 5825 feet with an initial production of only 600 barrels. Although far below the average, the new producer is flowing consistently and promises to be long-lived. Very little has been said lately relative to the conservation of gas in the field. The quantity wasted is understood to be much smaller than during the summer months.

Kern Front

After a stubborn fight with sand, the St. Helens Petroleum Company has succeeded in placing its No. 2, section 26-28-27, on production in the Kern Front field. This well is far above the average, having produced 300 barrels during the initial test. The Standard Oil Company did not fare as well in the completion of No. 12, section 27-28-27, which produced only 100 barrels of 45 per cent cut oil. The well was originally drilled to 2530 feet. Water trouble made it necessary to plug back to 2440 feet for the first test. Even at the shallower depth, the well made a poor showing. New locations are being made in the field at about the same rate completions are announced, indicating that development will continue at the present pace for several months.

Seal Beach

Seal Beach continues to produce at a very consistent rate, despite the small number of completions. The Alamitos Heights area, which embraces all of the townlot acreage, is gradually declining, but has shown more resistance than was predicted for it. Every effort is being made to produce the wells at their maximum capacity. The decline was so sudden that many of the producers are little more than paying their own way. The main Seal Beach field, which has been drilled in a very sensible manner, is producing more than 25,000 barrels, a figure almost as great as three months ago. The 40 wells in that section of the field are averaging two and one-half times as much as the 90 producers in the townlot area. Of the total production in the main part of the field, the Marland Oil Company leads with 14,000 barrels: Associated Oil Company is producing 6,900 barrels, while the Standard Oil Company has an average production of 4200 barrels. Only seven wells are drilling in the entire field. There are 43 rigs, of which 36 are idle. Abandonments are being reported in large numbers. The greater number of abonments filed effect rigs and locations, rather than producing wells, however. No new locations are being made. Current rumors that deep tests will be drilled in various parts of the field apparently are without foundation.

Ohio Oil Company, one of the most recent entries into California, has completed its first well in the State—a 110-barrel producer in the Huntington Beach field. The initial producer, Slayter 1, was completed at 4350 feet and may be regarded as an average well. The crude is only 16.5 gravity and is cutting 20 per cent. The oil is expected to improve in gravity and cut. The Standard Oil Company has re-completed Huntington 3 at 4280 feet and increased the production to 120 barrels. The oil is 19 gravity and cuts 20 per cent. The Standard has reconditioned several wells in the field with good results. The California Petroleum Corporation, not content with the action of its Buck 1, has placed the well back on production as a 160-barrel producer, after plugging back to 4340 feet. The well was originally drilled to 4437 feet. Total production from the field remains practically unchanged.

The small fields in the Los Angeles basin, Athens-Rosecrans, Dominguez, Torrance, Brea-Olinda, Montebello, East Coyote, West Coyote and Richfield, are comparatively quiet and little is expected of them during the winter months. The Union Oil Company has completed Chandler 2 in the Athens-Rosecrans field with an initial production of 125 barrels. Total depth was 4925 feet. The field produces a very light crude, which is in great demand. The Associated Oil Company is redrilling and reconditioning several wells in the Baldwin Hills Inglewood field, but is doing little new work. The Standard Oil Company is drilling three wells, two of which will soon be completed in the shallow sand. It is generally believed that the lower sands may be productive, but the chief operating companies have refrained from developing them. Several wells are being drilled in the Richfield field, but they are not expected to increase the total production appreciably. There is a gradual tendency toward deeper drilling in the field, especially along the west side of the structure, where a faulted condition exists.

The old Kern Front field, once one of the most prolific in the State, does not have a drilling well, and many old producers are shut in. The field has produced more than 250,000,000 barrels of oil, but now has a production of less than 10,000 barrels daily. Total production during 1904 was 17,226,000 barrels but the field will probably fall below the 3,000,000 barrel mark during 1927. Nearly 2000 wells have been completed in the field, but many have long since failed to produce.

North of Mt. Poso

Bakersfield, Calif. — Following the extension of the Mt. Poso field by the General Petroleum Corporation, the area lying between Round Mountain and the main Mt. Poso field will be tested thoroughly. Efforts will also be made to open up a new producing area north of the Mt. Poso field. The Shell Company is planning a test on Section 16-26-26, which is several miles north of the Mt. Poso field. Many wildcat wells have been drilled near the Mt. Poso field and many have secured good showings. The oil found in the entire region is similar in gravity.

PERSONAL MENTION-MEN YOU KNOW

Dr. I. C. White, State Geologist of West Virginia since 1897, and internationally distinguished for his work in the geology of coal, oil and gas, died November 25, 1927, in Johns Hopkins hospital, Baltimore, following an apparently successful operation which had been performed on November 22, and from which he seemed to be rapidly recovering. The immediate cause of death was cerebral hemorrhage which was almost instantly fatal. Burial was made at his home in Morgantown, West Virginia.

F. G. Clapp of 50 Church Street, New York, is exploring the oil fields of Northern Persia, working as consulting petroleum engineer for the Persian government.

M. H. Goode, of Fort Worth, and Alexander Deussen of Houston have resigned as vice presidents of the Marland Oil Company of Texas, and at a meeting of the board of directors of the company recently in Fort Worth the resignations were accepted. Mr. Deussen has not announced his plans for the future. Mr. Goode expects to engage in the oil business as an independent operator and will probably establish offices in the W. T. Waggoner Building, Fort Worth, and maintain a branch office at some centrally located point in West Texas. Mr. Goode has been in charge of the land department of the Marland Oil Company in Fort Worth for the past two years, and prior to that time he was vice president in charge of the land department of the Marland Oil Company of California with offices in San Francisco. He has been associated with the Marland interests in various capacities for approximately 12 years, the major part of this time having been spent at company headquarters at Ponca City, Oklahoma.

Cyrus McArthur of Warren and Kinzua, Pennsylvania, died at his Warren home December 5, marking the passing of the last survivor of the famous old crew which took part in the drilling of the Drake well in 1858. McArthur was 94 years old at death, and was reputed to be the oldest of the group of 37 men having been engaged in the oil business more than 50 years. Jacob Sheasley, 93, of Franklin, Pennsylvania, will hold this distinction since McArthur's passing. W. A. Hughes of Oil City will be 90 years old in April, 1928. He and his wife recently celebrated their 66th wedding anniversary.

On December 1, S. T. Childress was appointed assistant superintendent of the Rio Bravo Oil Company, with headquarters in Houston. He was formerly utility foreman with the same company.

Rio Bravo Oil Company also announces that R. G. Gray has been promoted from the position of material foreman to assistant land man. The place formerly held by Mr. Gray was filled by J. Zaba. Mr. Zaba was formerly material clerk at Pierce Junction.

FRANK BUTTRAM

of Oklahoma City, Oklahoma, president of Buttram Petroleum Corporation and a successful independent oil operator in the Mid-Continent field.

Jule C. Axelson, Clyde Ellwood, and William H. Lowry, officials of the Axelson Machine Company in Los Angeles, have been visiting different parts of the country in the interest of their organization. Mr. Axelson, who is president and general manager of the company, was in St. Louis for two weeks conferring with Delbert F. Axelson, assistant manager and plant manager. Over $150,000 worth of improvements are being made at the St. Louis plant. Mr. Ellwood, general sales manager of the company, made a flying trip to New York City during the latter part of November, and has returned to Los Angeles after visiting various oil fields in the East and the Mid-Continent. Mr. Lowry, chief research engineer for the company, was in Chicago during the A. P. I. meeting, and has returned to Los Angeles.

Leon J. Pepperberg, consulting geologist for the Columbia Management & Engineering Corporation has been at Charleston, West Virginia, for the past month where he has organized a geological department for the United Fuel Gas Company, a subsidiary of the Columbia Gas & Electric Company. Mr. Pepperberg will be in his Dallas office for several weeks during the holidays attending to his consulting practice there.

C. H. Homer, superintendent of the Rio Bravo Oil Company at Houston, has been absent from his office for about a week on account of illness.

W. H. Mengden, scout for Roxana Petroleum Corporation, has been transferred from Biloxi, Mississippi, territory to the central territory in the Gulf Coast, with headquarters in Houston.

W. C. Brower of New York, manager of the crude oil department of the Vacuum Oil Company, was in Houston for several days last week.

A. A. Murrell, formerly a scout for the Vacuum Oil Company but now in the land department of that company in the New York offices, has been visiting in Houston.

Dr. D. L. Brower, veteran operator, has encountered a sand showing high grade oil at 3347 feet in the wildcat which he is drilling on the Frank Stormer land in Faulkner County, Arkansas. The test is located in the northwest corner of the northwest quarter of the southeast quarter of section 17, T-4-N, R-13-W. Eight and one-quarter-inch casing has been set at the depth at which the oil show was found. This test is 164 miles from production. Dr. Bower and associates hold 30,000 acres of land in this district in a solid block.

Nathaniel Jackson, district sales manager for the Austin Machinery Corporation, with headquarters at 311 Ness Building, Salt Lake City, Utah, was a business visitor in Tulsa last week.

Trell Yocum, who for several years has been associated with the American Petroleum Institute, has been made publicity director of the A. P. I., succeeding Judson C. Welliver, resigned. L. M. Fanning has been appointed to serve as assistant to Mr. Yocum.

Portland Cement for Shutting Off Water in Oil Wells

Successful cementing depends upon certain fundamental conditions; mixing ratios have an important bearing

By JOHN F. HOUGH, C. E.*

Structural and Technical Bureau, Portland Cement Association, Chicago.

CEMENTING oil wells is an operation that is exceedingly wide in scope, and one that will doubtless be under consideration and discussion so long as there are enough known deposits of oil and gas remaining in the earth to make their production profitable.

The speaker, representing the Portland Cement Association, has recently spent considerable time in the oil fields of Oklahoma and Texas engaged in research in this important operation. Owing to the range of action necessary to intelligent research in a field that involves so many factors, there is yet a great deal of work to be done. It would be impossible to treat the whole subject in a technical way in the time allotted for the presentation of this paper, so there will be brought out only a few fundamental facts, determined by actual experiences in the field and experiments in the laboratory, that will show what may reasonably be expected from the use of portland cement for shutting off water in oil wells.

Any reference made in this paper to cement, means any standard brand of portland cement that meets the current specifications of the American Society for Testing Materials. Unless otherwise qualified, water is assumed to be fresh and clean, or in general to be fit for drinking.

AS the art of drilling and developing oil properties has progressed, increasing thought, labor and money have been expended on various methods, devices and equipment for arresting the intrusion of water into pay sands. The use of portland cement has, through the merits of the material, come to be almost the universal practice for combating this serious problem. The successful use of portland cement in oil wells is dependent upon certain fundamental conditions which if carefully maintained will enhance the success of the material in establishing a water-tight wall between the casing and the sides of the hole. When any one, or combination of more than one, of the fundamentals are not observed, the cementing operation may fail.

It is very difficult in many cases to make anything like a satisfactory study of the cause of a cementing failure. Cement grout is mixed a half a mile or more from the form into which it is to be cast. This form is out of sight, several thousand feet in the ground, and must be reached through a tube varying from two inches to perhaps 10 inches in diameter. The form itself is a tube, relatively thin with respect to its length and to the thickness of the desired impermeable wall that the grout is to make between the casing and the sides of the hole. This wall may vary in thickness from nothing at points where the casing comes in contact with the sides of the hole, to several inches, or feet, elsewhere.

Whether the cementing process is resorted to for shutting off top, intermediate or bottom water, it is desired that the hardened grout will form an impermeable wall or packer that will defeat the migration of water from its normal subsurface location to the oil sands. In the consideration of the use of portland cement for this purpose, impermeability is probably the first thing to be considered.

Research in making concrete with portland cement has determined that the strength and other qualities of concrete is dependent upon the quantity of the mixing water used in its making. A definite relation has been established between strength, and the ratio between the water and cement. Fully confirmed, this relation is now expressed as a law, and is stated as follows:

Mixing Ratios

"For given materials and conditions of manipulation, the strength of concrete is determined solely by the ratio of the volume of mixing water to the volume of cement so long as the mixture is plastic and workable."

The water-cement ratio not only governs the compressive strength of concrete, but likewise other desirable qualities including its degree of impermeability. Impermeable concrete requires non-porous aggregates thoroughly incorporated in a cement paste that is itself impermeable. An impermeable paste requires in turn a low water-cement ratio and thorough curing.

Later experiments have determined that the strength, and therefore the impermeability, of neat cement grout are also dependent upon the water-cement ratio.

Neat cement grout as used in the process of cementing wells, contains no aggregate, so that the question of workability, which is one of the factors of the water-cement ratio law in concrete, is reduced simply to the question of the smallest amount of water that can be used to produce grout that can be properly mixed and handled, when consideration is given to the machinery involved and the physical condition of the hole in which the cement mass is to be placed.

Any consistency of grout that is capable of being handled by pumps or other oil well cementing equipment, is workable; so there remains only the consideration of the effect of the quantity of mixing water on the ultimate strength and impermeability of the hardened grout.

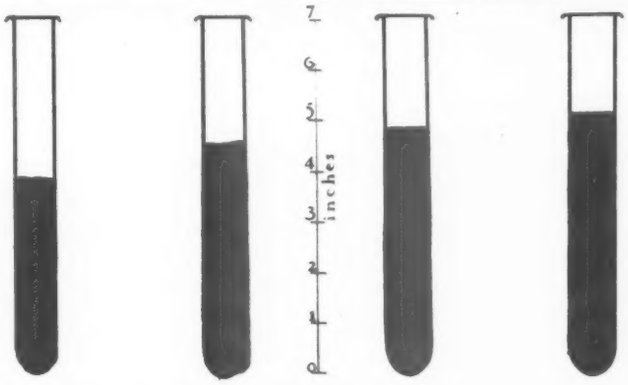
Cement, after being mixed with water, hardens through a chemical reaction between the cement and water, generally expressed as the hydration of the cement. Complete hydration can be accomplished by an amount of water that is insufficient to produce a material fluid enough to be handled in the cementing process. Therefore, it is necessary to use an additional amount of water, which may be called an excess, and which is not needed to combine with the cement and cause hydration, but is required to give workability to the grout.

Any amount of water not used up in the chemical process of hydration, eventually escapes through evaporation or otherwise, or it may remain loosely entrained in cavities or pores which its presence created. Any water or other substance which can enter a mass of grout after it has hardened, must do so through the openings once occupied by the mixing water which was not utilized in the chemical changes incident to hardening. Thus the porosity of the hardened grout is determined by the quantity of this uncombined water. This explains why grout with the lowest water-cement ratio will have less porosity, and therefore greater resistance to the action of migrating water and gas in a well. The most impermeable wall that can be placed around the casing then is attained by the use of a grout made with the least amount of mixing water.

To graphically illustrate this fact, the experiment illustrated in Figure 1, was performed. Into four test tubes was poured an amount of grout containing in each case the same amount of cement, but each mixed with a different amount of water. The grout was allowed to harden undisturbed and the results noted. The

*Before Eight Annual Meeting, American Petroleum Institute, Chicago, December 5, 6, 7 and 8, 1927.

Effect of Amount of Mixing Water on the Volumne of Hardened Neat Portland Cement Grout



	No. 1	No. 2	No. 3	No. 4
W/C By Volume	0.60	0.75	0.85	1.00
Ab. Vol. Water - c.c.	20.0	25.0	28.3	33.3
Ab. Vol. Cement - c.c.	16.3	16.3	16.3	16.3
Total Ab. Vol. C+W-c.c.	36.3	41.3	44.6	49.6
% Increase in Volume	0	13.8	22.9	36.7

FIGURE 1

water-cement ratio used were by volume of the cement. Tube No. 1 contained grout made in a water-cement ratio of 0.60: Tube No. 2, 0.75: Tube No. 3, 0.85 and Tube No. 4, 1.00. The grout in tube No. 4 has hardened into a mass, the volume of which is an increase of approximately 37 per cent over the volume produced by the grout in tube No. 1. If these specimens were allowed to dry out, this 37 per cent increase in volume would be mostly voids, formerly occupied by the excess mixing water. Grout of the same thin mixture as in tube No. 4, placed in a well would in all probability not dry out, but the excess mixing water might remain entrained in the mass, or in case of being subjected to static pressures of formation water or gas, might be forced out and immediately replaced by the foreign elements thus entering, establishing a channel or line of flow that the cementing operation is employed to eliminate.

The water-cement ratios used in this experiment represents the range of mixtures observed in use under actual conditions in the oil fields. Due to ease of handling, many operators usually use a very thin grout, at times even thinner than a water-cement ratio of 1.00. Grout mixed in the ratio of six-tenths of a cubic foot of water (4½ gallons) to one cubic foot of cement (one sack) is a fairly thick mixture that experience has shown can be used in wells. The speaker has never seen a cementing pump that was incapable of handling the thickest grout used in the experiment just described.

Water-Cement Ratios

In order to determine the effect of the quantity of mixing water on the compressive strength of neat cement grouts, test specimens were made using the same water-cement ratios used in the volume tests, and broken at the ages of one, two, four, ten and 28 days. The results of these tests are shown in Figure 2. It will be noted that an exceptionally heavy grout with a water-cement ratio of 0.4 (three gallons of water per sack of cement) has been used in this series of tests. It is thoroughly appreciated that grout of this consistency cannot be handled by any pumps yet designed for oil well cementing; but this thick grout was used to more thoroughly demonstrate the effect of the quantity of mixing water on the resulting strength of the hardened grout.

Possibly the greatest improvement that could be applied to the present day cementing process, would be the development and use of a mixing device that would produce grout of a uniform consistency throughout an entire cementing operation. In all processes known to the speaker, the consistency of the grout will vary from fairly thick to exceptionally thin in the same operation.

Curing

In all tests involving portland cement, curing has proven to be an important factor in the development of the ultimate strength or ultimate quality of the hardened mass. In making concrete, proper curing is one of the most important elements in producing water tightness. The process of hardening is slow but continues indefinitely so long as temperatures are favorable and moisture is present to complete hydration. The rate at which hardening proceeds is affected by temperature. In cementing oil wells, neither the temperature of the hole nor the condition of moisture can be regulated, but these two conditions are usually favorable to the hardening of the grout so that in the majority of cases the factor, curing, may be resolved to maintaining other physical conditions within the well propitious to the hardening process.

Frequently a well may be making water or gas from a formation adjacent to or below the location where it is desired to place the grout. Under the agitation caused by infiltering water, gas or oil, cement cannot be expected to properly harden. If the agitation is not violent, it can often be quieted by circulating thick mud fluid. Mud fluid under high pressure will often quiet a very violent agitation by forcing the water or gas back into the sand. This may offer only temporary relief and should be followed as quickly as possible by the placement of the cement grout with a system that will allow the mass to be placed under pressure. During the early period of curing or hardening this pressure should be constantly maintained. Thirty-six to 48 hours should normally suffice. It must be borne in

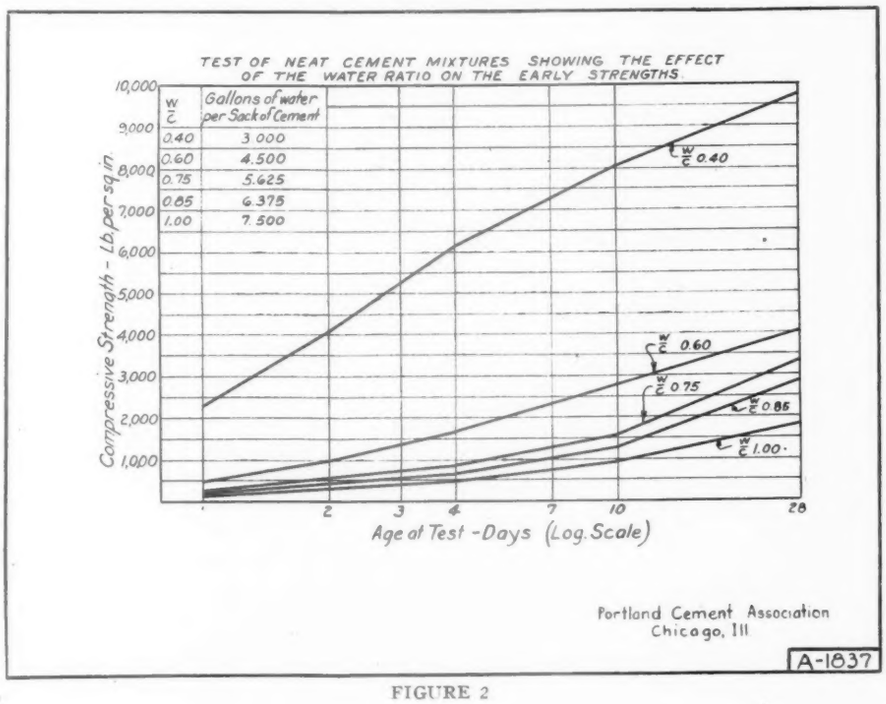


FIGURE 2

mind that built-up pressure within the well may become dissipated through defective joints or by other causes, and it may become necessary to boost the pressure at periodic intervals during the hardening period. This can be done with the mud pump. A gauge on the swedge nipple would be good insurance.

During investigations in the Oklahoma fields it was noticed on several occasions that the cementing outfit had carefully sealed a built-up pressure within the well. An hour or two later the drilling contractor attempted to remove his elevator and found that he could not get it over the handle of the valve in the swedge nipple. (The elevator was the slip-ring type.) The valve stem was first sawed off but even then the elevator would not clear. The valve was subsequently completely removed, releasing the built up pressure. The elevator was removed and the valve carefully replaced. In one instance when the casing apparently had a defective float shoe valve, it was found that the cement grout had backed up in the casing a considerable distance. In another case where the cementing had been done through tubing, the grout apparently had hardened, but a complete water-shut-off was not accomplished. It is very important that the cement grout be undisturbed during its early period of hardening and curing.

Condition of the Hole

Among the few fundamental conditions which if regularly maintained in the cementing of wells will enhance the success of the operation, one of the first that should be given consideration is the condition of the hole. The mere fact that a hole can be measured to a certain depth does not mean that it is in condition to cement. The circulation should be as free as possible and every reasonable precaution taken to allow the placement of the grout in as thick a wall as possible near the lower end of the casing. Under-reaming is a practice that is not resorted to as much as its resulting advantages would warrant. Cable tool holes benefit particularly from this operation.

The ultimate shape of the grout mass when set, and its distribution radially as well as vertically, have much to do with its effectiveness. It is well known that a string of casing will not hang concentrically within the hole; that neither casing nor hole will be absolutely straight, and that at many points the casing will be absolutely straight, and that at many points the casing will be in contact with the wall of the hole. It is not practical to drill a hole enough larger than the casing to prevent these conditions, but adequate reaming will help matters greatly. In an unreamed hole, when the grout is forced up the outside of the casing, there will be no grout at the points of contact between the casing and the side of the hole, and there will be a deposit on the opposite side of the casing ranging from three or four inches up to several feet thick in caving formations. A local projection of the wall in contact with the casing here or there will probably not jeopardize the result of the cementing job. If, however, the contact joints are so numerous that they constitute a line of contact connecting a water sand above with the bottom of the casing, and thus permitting the water to flow into the oil or gas bearing stratum along this line, the cementing job has failed. In a well reamed hole, the cement is forced up and around the irregular projections of the sides of the hole, filling the large crevices. A little mud may be trapped here and there in the smaller crevices but this should cause no harm. It seems unlikely that the grout will wash all the mud out of these small spaces and on this feature hinges a much argued question as to the advisability of the use of a thin mixture of cement grout. Advocates of the thin mixture claim that it will wash the mud out of the narrow places better than the thick mixture, and allow more grout to be placed. This is not a good argument, for it has been demonstrated that just as good, if not better, results can be gained by thinning the mud fluid and circulating it for a few minutes before the grout is run. Under no condition should the cement grout be made thinner than is absolutely necessary to its proper handling and placing.

Under-reaming, perhaps 10 to 15 feet, immediately above the tight hole usually drilled as a set for the casing shoe, will in any case increase the possibility of success in cementing. Figure 3 illustrates the effect of under-reaming the lower end of the hole on the resulting shape of the wall of hardened grout. Section "A. A." shows the position of the casing, in a reamed hole, and section "B. B." the probable position of the casing in a hole that has not been reamed.

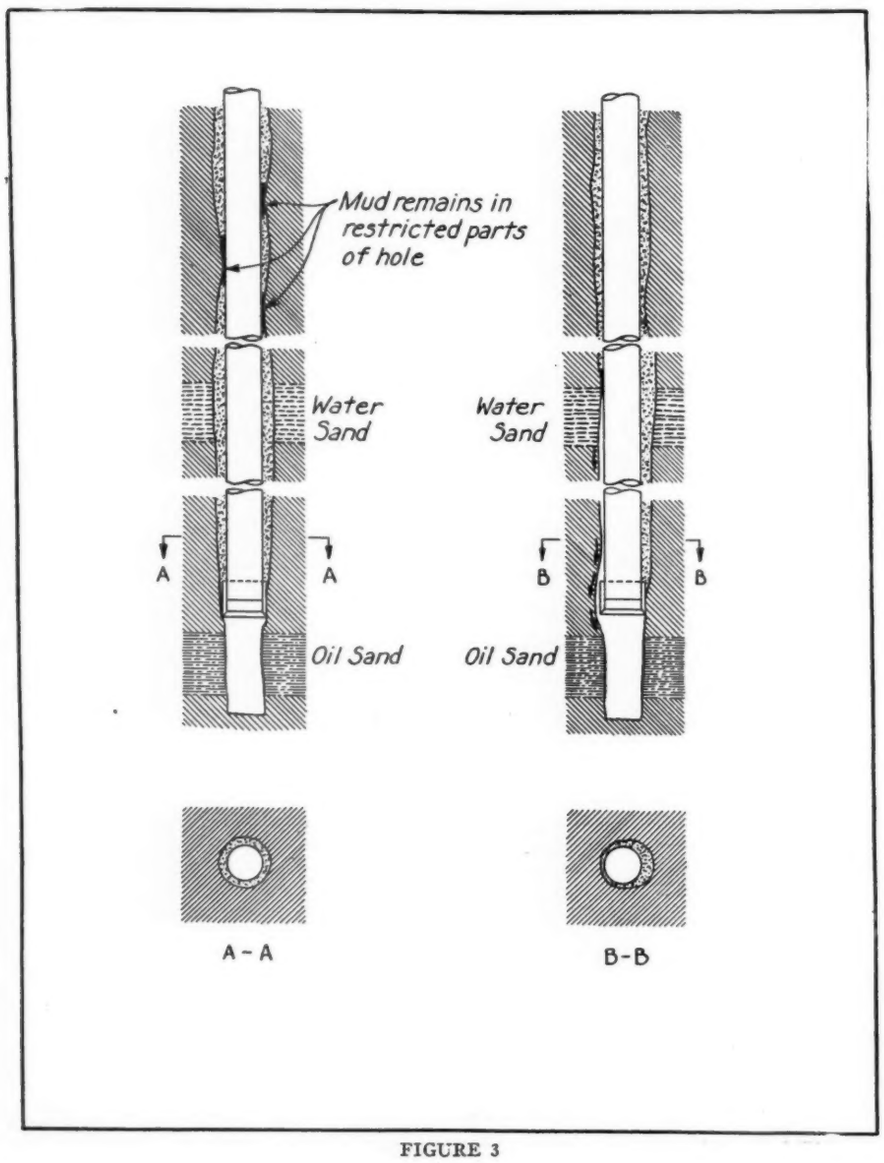


FIGURE 3

Chemical Reagents

In considering only the materials used in cementing oil wells, without entering into a discussion of the merits of the various mechanical methods in common use, second only to the effect of the amount of mixture water, comes the consideration of the reaction of certain chemical reagents when used with portland cement.

Within certain limitations calcium chloride or calcium oxychloride may be used in portland cement mixtures to hasten and increase early strength. The amount of admixture required to produce the most beneficial effect seems to be dependent upon the chlorine content. Only small amounts of these admixtures may be used to advantage. The greatest acceleration is obtained with 2 to 4 per cent of calcium chloride, or 7 to 10 per cent of calcium

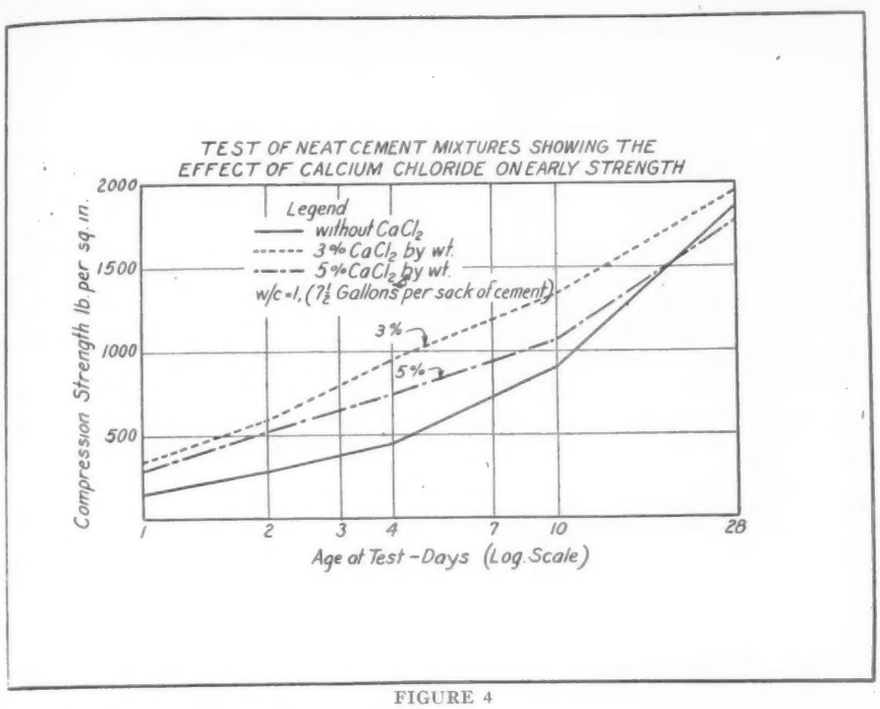


FIGURE 4

oxychloride by weight of the cement. With these percentages, tests covering a period of three years show no indications of reduced strength. If quantities of these materials greater than the percentages just mentioned are employed, the strength decreases.

Reagents for use in cementing oil wells are sold in the oil fields in ready prepared solutions in drums. The containers usually specify the amount of the solution that may safely be used per bag of cement. These amounts should never be exceeded.

There is evidence to show that calcium chloride and similar compounds do not react in the same manner with all brands of portland cement. Trial batches of the brand of cement and the brand of accelerator proposed to be used should be made up and the ratio of hardening at temperatures that will be encountered in wells, noted before proceeding with their use in this important work.

Figure 4 shows the effect of calcium chloride on neat cement grout mixed in a water-cement ratio of 1.00 (7½ gallons of water per sack of cement). The action is typical for other mixtures in that the optimum effect of the reagent is attained with the use of approximately 3 per cent. In this graph, the effect of the use of 5 per cent of calcium chloride is plotted to show how the strength development is lower than that attained by the use of 3 per cent of the chemical. In this series of tests, calcium chloride was used in the percentages of 1, 2, 3, 4 and 5, by weight of the cement. The optimum effect was with the use of 3 per cent. In other tests, involving the use of calcium chloride in various concrete mixtures, as high as 10 per cent of the chemical was used with the results shown in Figure 5. It is very interesting to note on this graph, that the richer mixes, or those containing the greatest proportion of cement, show the greatest increase in strength with the use of 2 or 3 per cent of calcium chloride; also the richer mixtures show the greatest reduction in strength when these proportions are exceeded. With the use of more than 2 or 3 per cent of this chemical, the resulting strength is lower than the same mixture without the chemical would have produced.

This further demonstrates the necessity of cautious use of chemical reagents in cementing oil wells where the richest or dryest mixtures are advocated. The careless use of a chemical admixture may completely defeat the purpose for which cement is being used.

In consideration of all the factors involved it is immediately apparent that trial batches of grout should be made with the cement and accelerator to be used, and cured in a way that will most nearly approximate the actual condition in the hole. The results noted will determine the practicability of using the reagent to accomplish the desired acceleration of hardening. The theory that if a little bit is advantageous a whole lot is more so, is one that should be removed from the minds of those who use chemical reagents with portland cement.

Chemical accelerators should never be

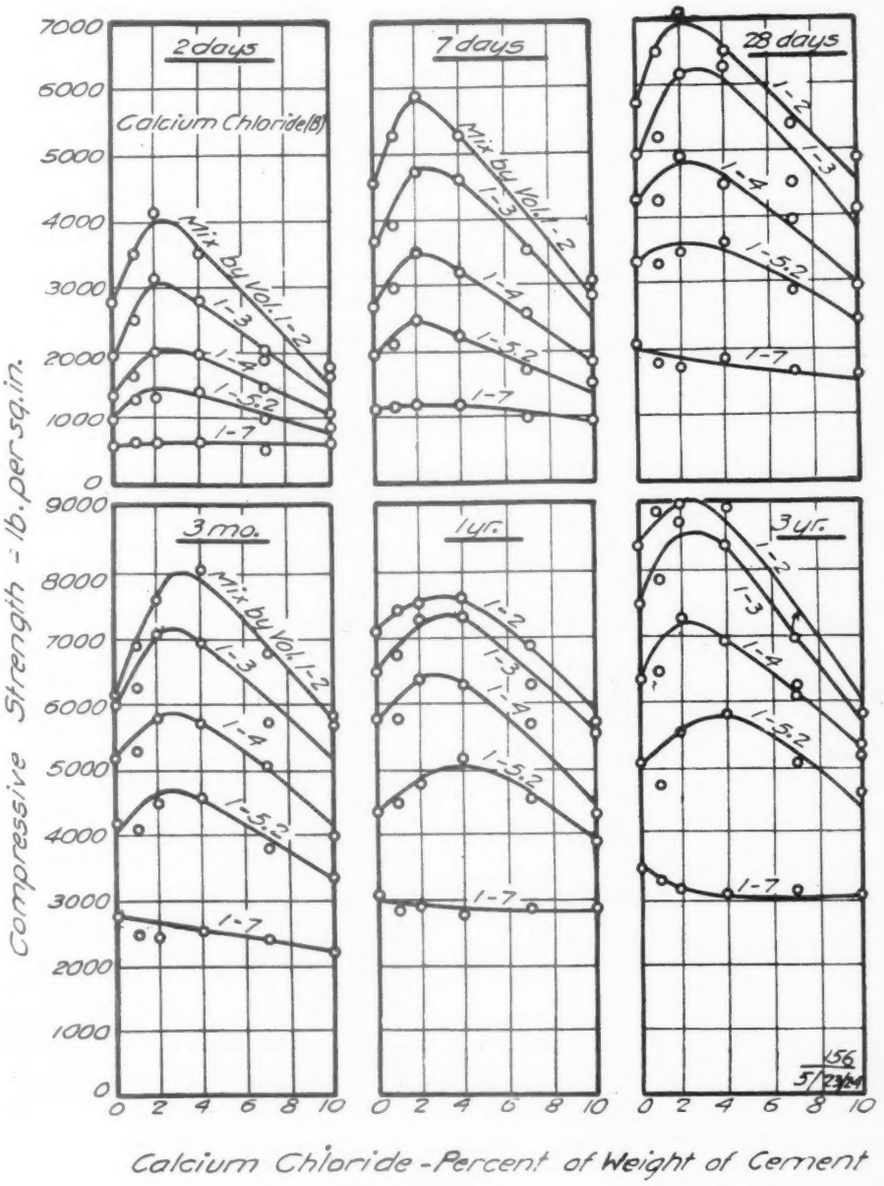


FIGURE 5

poured into a suction box from which cement grout is drawn by the cementing pumps. This is a very common practice, but it can readily be understood that in the employment of this method, there is no way of regulating the percentage of chemical. Grout in the suction box has been through the mixer. Pouring liquid accelerator into the mixed cement and water is increasing the water-cement ratio which in turn decreases the ultimate strength and impermeability of the hardened grout. Even if allowances were made for the amount of liquid that would be added at the suction box, the practice is detrimental, for experiments have shown that the chemical does not always thoroughly mix with the grout when it is introduced in this manner. A five gallon drum of chemical was colored a deep red and poured into the suction box in the ordinary manner. Samples of the grout were taken after it had gone through the pumps, from a cock near the swedge nipple. After hardening, these samples were broken and the red colored chemical was found to be in streaks throughout the specimens made of the heaviest grout, while in those of thinner mixtures the color was more or less fairly uniform. Chemical admixtures should be added to the water in the supply tank, in calculated proportions that experience will have shown to be advantageous. With this method there will be no detrimental effect of increasing the water content of the grout after it has been mixed.

Mixing Water

There are many other subjects in connection with cementing oil wells that might be mentioned here, but allotted time will not permit their complete discussion. Mixing water may be briefly mentioned. All tests involving portland cement mentioned in this paper have involved the use of water that, in general, was fit for drinking. This is an ideal that should be maintained in oil well cementing. It is appreciated that it is not always possible to have fresh and drinkable water available in oil fields, but every effort should be made to use the cleanest and best water that may be had at the well site.

Cement mixed with saline or foul waters will in all probability harden, but with varying derogatory degrees of hardness and impermeability. During investigations carried on in the Oklahoma and Texas fields, cement was mixed with water from over 100 different wells and in no case failed to harden. Compression tests of these specimens showed decided low strengths, but the fact remains, the cement did harden.

Cementing an oil well, is a highly technical problem and should be superintended by an engineer or other oil company official who is skilled and experienced in the work. Experience has shown that it is highly advisable to have some one on the job with authority to say "So much mixing water and no more." This is no way meant to be a criticism of the men that may be doing the cementing work, whether it is by day labor or under contract. It is human nature that most any man or bunch of men will do a particular piece of work in the easiest manner possible that will be acceptable to the outfit paying them to do it.

In summarizing it might be said that all cementing processes depend for their success on three fundamental requisites which the operator should fulfill to the best of his ability. These are (1) effective preparation of the hole to receive the grout, (2) thorough mixing of the cement grout in the smallest proportion of water that will give the necessary fluidity, and (3) the selection of a method of depositing the grout that will insure its placement in an unadulterated mass at the location desired.

Frequently experienced men become so accustomed to an oft-repeated piece of work, that it is performed mechanically. Thus cement is sometimes mixed with a large excess of water and pumped into a hole that is gassy and is poorly prepared to receive the cement. If the three requirements just mentioned are faithfully met and a standard brand of portland cement is used, the operator has every reason to look for a successful shut-off.

When an accelerator is to be used for the first time with any brand of cement, it is advisable to make a few tests and note the results. If it is necessary to use slightly impure water, similar tests should be made. There will be little opportunity for underground water to interfere seriously with the hardening of the grout, as such water will usually be driven back from the hole in the washing process of circulating mud or water before the cementing process is started. If the precautions outlined in this paper are carefully observed, the speaker is of the opinion that the character of any underground water encountered need not occasion great anxiety.

Oklahoma Natural Gas Enters Oklahoma City

Tulsa—The Oklahoma Natural Gas Corporation of Tulsa will take over the gas properties of the Oklahoma Gas & Electric Company of Oklahoma City March 1, following the closing of a deal December 17. This purchase gives the Oklahoma Natural Gas Corporation the distribution of natural gas in about 50 Oklahoma cities, including the properties, facilities and retail distribution rights. The purchase price, while not announced by R. C. Sharp, president of the Oklahoma Natural, is said to exceed $10,000,000.

J. F. Owens, vice-president and general manager of the Oklahoma Gas & Electric, stated that the plans of his company in the future were to be directed entirely to the electric business. This company, while in the past has only been serving 14 cities with natural gas has been serving 167 cities with electric power.

Phillips Petroleum Company purchased the Oklahoma Natural Gas Corporation May 23, 1927, following the consolidation and reorganization in September, 1926, of the Oklahoma Natural Gas Corporation, Okmulgee Gas Company, Kingwood Pipe Line Company of Okmulgee and the Southern Gas Company. About three months after the Phillips' purchase it sold its interests in the Oklahoma Natural Gas Corporation to a New York syndicate headed by G. L. Ohrstrom and Company, bankers.

Montana Chapter Meets

Great Falls, Mont.—More than 300 attended the annual meeting of the Montana chapter of Rocky Mountain Oil & Gas Association held in Great Falls last week. One of the most interesting and successful gatherings of the chapter's history was held, with enthusiasm and optimism furnishing the keynotes for the various sessions. M. C. Henderson of Great Falls was elected president to succeed L. B. O'Neil of Sunburst. Four vice-presidents elected were LaRue Smith of Great Falls, C. H. Brown of Lewistown, A. E. O'Brien of Lewistown, and John O'Neil of Sunburst. Walter F. Brittain was re-elected secretary and T. B. Campbell is the new treasurer.

Texas Co. Completes Ninth Dale Well

Houston—The Texas Company completed its ninth producer in the Dale field, Caldwell County, when Osteen 2 came in flowing 236 barrels from 2234 feet. This is one of the best wells of the area. Two other tests of The Texas Company there were ready to be put on the beam early this week; namely, the Osteen 1 and the Lackey 5. The Texas Company's Osteen 2 is an off-set to the Sun Oil Company's Talley 2.

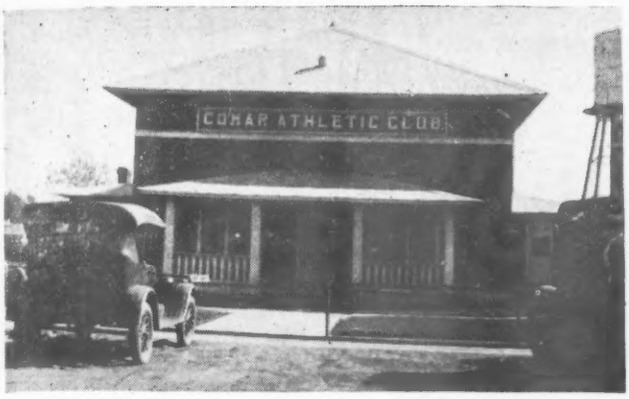
Prior to the completion of the Osteen 2. The Texas Company's average daily production at Dale was about 300 barrels from eight wells. Of the eight producers, two, including the discovery well, Beaty A-1, yield about 60 barrels each; while the rest of the production is divided about equally among the other six.

The Texas Company's Roebuck 1, a wildcat located near the town of McMahan in Caldwell County, was drilling late last week at 70 feet in rock.

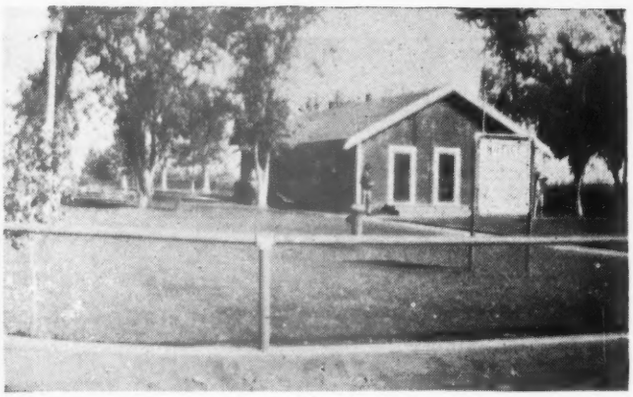
Colorado Test

Denver, Colo. — Reiter-Foster Oil Corporation is organizing the Timpas Dome Oil Company for the purpose of taking over the operation of the Timpas Dome Syndicate in Otero County, Colorado, near the Las Animas County line. The rig on Bell ranch, 29-26-57, is to be skidded and a new hole is to be started on the structure. Operations are to be started immediately.

Aztec, N. M.—San Juan Petroleum Corporation has started its San Juan 2, southeast of the southwest of section 9-29-13, and is reported to be drilling below 250 feet. The test is to be drilled to the Mesa Verde and an early completion is expected.



Comar's Athletic Club offers recreation, education and amusement



Office work is not boresome in an attractive environment such as this

Comar Sets Example in Camp Building And Maintenance

Quarters for employes at Tonkawa provide pleasant conditions while material and supplies are efficiently cared for

By WALLACE DAVIS
Staff Representative

THE Comar Oil Company has set an example in camp building and maintenance in its Tonkawa, Oklahoma, camp which any operating company might profitably follow to obtain more orderly workmanship among employes, more systematic arrangement of equipment, conservatism generally in caring for property, and a higher standard of living and spirit of success and progress among the members of the company.

Comar's camp at Tonkawa is reputed to be the best all-round operating headquarters of any company in the Mid-Continent territory. Due to the ideal living conditions and working program in the camp it is at the top rank in efficiency. As a result of the manner in which it was established and gradually built up with systematic care, it is a pleasant place to visit and study.

The working program in the course of a day in this camp is orderly to the last step. Every piece of equipment is in its particular place. Hard surfaced roads throughout the camp permit men and trucks to go to these places without interruption. Tools coming under a certain class are kept on a certain rack, and casing and tubing, according to its size, is systematically in its place and kept in first-class condition for ready use when it is needed.

An accompanying illustration shows the Comar's method of storing drilling and fishing tools and the method of loading them when they are needed. This particular rack is a "home-made" affair, which has been designed and built by Comar field men. The floor of the rack is about four feet above the ground, about the level of the average truck bed. In the center of the rack is a mast pole made simply of a joint of casing, which is socketed in a ground pivot and made steady by guy wires running to four corner poles, also of casing. The beam jetting out from the center of the center mast pole has a chain hoist attached for grabbing the tools, raising them above the truck level and loading them with practically no manual labor.

Pipe is painted regularly to prevent corrosion.

Another illustration shows the systematic method of staking casing so that the joints can easily be moved or loaded when necessary. Each casing rack can be approached on two sides by a truck under the Comar's arrangement. The company's casing is well taken care of by maintenance men on the grounds. It is gone over regularly with paint (the company in some cases uses plain crude oil and other cases prepared asphaltic paint) to keep down corrosion or flaking. An old wornout broom serves the problem in first-class shape.

The Comar's Tonkawa camp is noted for saving and yet not getting into the make-shift class of conservatism. The rail fence seen in the picture of employes' houses, around the office building and the athletic club building is made of posts from small casing, while the railing is made of tubing not usable in wells. Wire lines are used in places for fence building.

Wornout equipment is not to be seen about the Comar camp. When equipment gets past usefulness in its respective place it is gathered up and divided into two classes. If it can be used for any good purpose about the camp or on the lease it is stored in a section es-

A row of employes' homes in the Comar camp.

pecially for used equipment. Otherwise it is sold for junk.

The Comar Athletic Club stands in a place by itself in Mid-Continent oil fields. All employes of the company have club privileges at no cost, and find many things connected with the club to consume their spare time—educational, exercise, rest and amusement. A completely equipped gymnasium provides the employes with first-class sports and physical diversions. It has an indoor basketball court, the various gymnastic games, a billiard room and a headquarters for baseball. Incidentally, the baseball team of the Comar has attained the point to where it is practically self-sustaining, due to the interest it has attracted in its games with competitors over the field.

The majority of the company meetings are held in a spacious meeting room in the athletic club building, even those of some of the meetings of other companies operating at Tonkawa, so desirable is this for a gathering place.

A reading room is kept up to date in the athletic club, and is at the disposal of the employes for amusement, reading, keeping up with the news and in studying subjects of their liking.

The grounds of the Comar camp covers 715,000 square feet, including the warehouse, which keeps in supply equipment expected to be necessary for months ahead. A landscape gardener lives on the grounds and spends his entire time in keeping the beauty of the place at its best. The entire camp, with the exception of working space, is Bermuda grass, and flowers line the yards of employes' homes and the roadways leading into the grounds. Shade trees, which line the camp from end to end, are whitewashed and kept in neat trim for tiptop appearance. Business houses and employes' homes alike get their coats of paint regularly to keet the best appearance.

A tower tank on the grounds supplies the camp with water. Fire plugs at close intervals line the grounds for careful prevention against fires. Safety signs that present a lesson to their readers are scattered over the camp in an effort to minimize hazards.

One of the most progressive steps noticeable at the camp is a first-class brick school building, which has been provided by the various companies with production in the Tonkawa field. Not only are children of the oil company employes allowed to attend this school, but also other children living in this particular neighborhood are admitted.

Plans for Utah Tests

Salt Lake City. — Rig and drilling equipment are being moved in to location in section 36-26-20 Cane Creek Dome, for the Utah Southern Oil Company's test, John L. Shafer 1, on the flank of the structure. It is expected that drilling will be under way before the first of the year.

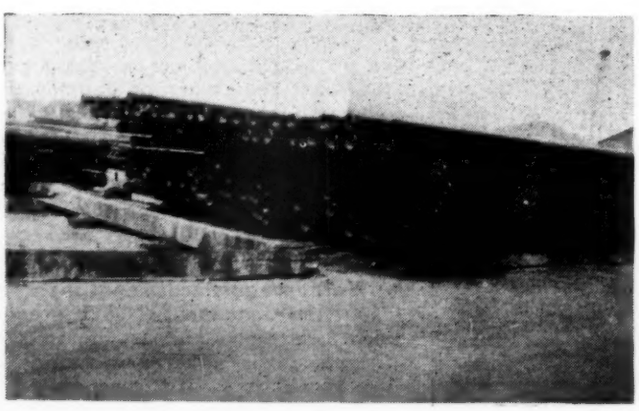
Utah Southern is completing arrangements to drill a test on Salt Valley anticline, about 20 miles north of Moab, and it is announced that operations will start as soon as certain extensions on prospecting permits are granted.

Phillips Petroleum Corporation, major independent operating in the Mid-Continent, has recently taken a drilling contract on a large tract of acreage in the Green River Desert area, near the Sweetwater structure where the Texas Production Company is operating. A road contract involving $15,000 has been let to Green River parties, and work is now under way.

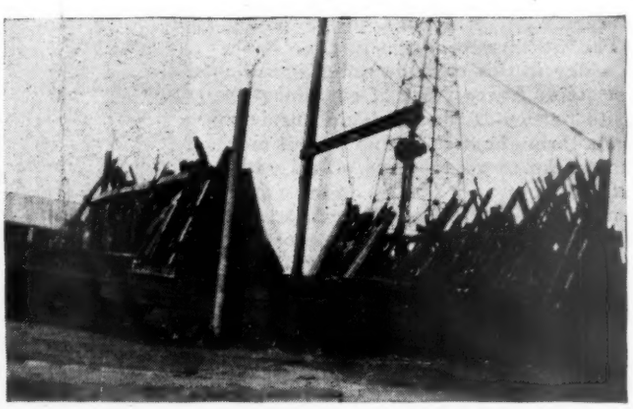
Rumor Not Confirmed

Casper, Wyo.—Story appearing on the market page of a recent issue of a Denver newspaper to the effect that the New York Oil Company is negotiating for the sale of its properties in the Salt Creek field in Wyoming and that the company plans in the future to confine its activities to the distribution of natural gas as a public utility concern, received no confirmation whatsoever at the Casper offices of the New York Oil Company. If such ed a critical stage and whether or not it is consummated is entirely a matter of conjecture.

Casper, Wyo.—Assignment of contract for the purchase of oil from the Salt Creek field by the White Eagle Oil & Refining Company at Casper, instead of by the Producers & Refiners Corporation, was approved by the State land board at its session in Cheyenne last Monday.



Every size casing has its own place in this rack.



Handling tools on this rack involves very little labor.

Pleasant Hill Field Extended Five Miles Northwest

SHREVEPORT, La.—Successful completion of the Benson Oil Company's Wolf 1, section 3-3-13, De Soto Parish, extending the producing area of the Pleasant Hill field five miles northwest, was the outstanding development of the past week in the Louisiana-Arkansas territory. Activity in the Richland Parish gas field and in the Champagnolle section of Union County, followed as close seconds in point of interest, although the developments in the latter field were somewhat disappointing.

The Benson Oil Company's Wolf well, a rank wildcat, was brought in on December 13, flowing by small, irregular heads at the rate of from 25 to 50 barrels a day, from 3008 feet, the bottom 12 feet of hole being oil sand. Soon after it began heading up it made one large head of oil over the top of the derrick, estimated at about 10 barrels, and then gradually died away entirely. Later during the afternoon it made a spray of oil on two different occasions, each estimated at two barrels. The well was swabbed down to the top of the liner on the succeeding day, at which time it showed indications that it would make a 75 or 100 barrel pumper. The oil produced from this well is of the same general character as that secured from the wells in the Pleasant Hill field proper, indicating that it is coming from the same structure; and this fact may lead to additional drilling in the territory lying between this well and the Pleasant Hill field.

The past week witnessed several important tests in the newly discovered Champagnolle field, although no successful completions were accomplished. The Ohio Oil Company tested four of its 13 drilling wells, and only one of the four appears to be capable of making a producer. Crain 3, a direct south offset to the Magnolia Petroleum Company's Carroll well, completed almost three months ago as a 300 barrel flowing well, and now flowing about 270 barrels of clean oil and 500,000 cubic feet of gas a day, tested only 1800 feet of oil in the hole when bailed at 2990 feet during the early part of the week. This well is also an east offset to the Ohio Oil Company's Crain 1, the initial commercial producer in the field, which is now pumping 25 barrels of clean oil daily. The Ohio's Will Humphrey 1, offsetting the Magnolia Petroleum Company's Carroll 1 on the west, tested salt water with only a show of oil when it was bailed at 3017 feet, and later at 3037 feet. This well is now shut down while arrangements are being made to plug and abandon it. The same company's Crain 5, an east offset to E. M. Jones' Crain 1 gusher, in section 2-17-14, tested dry at 3046 feet and was deepened at 3049 feet, where it was bailed down to 2800 feet without any show of oil. The Ohio's Rick Pumphrey 1, offsetting the Jones well on the south, tested 15,000,000 feet of gas at a depth of 3013 feet, and has been shut down to await further orders.

In the face of these unsuccessful and disheartening tests, E. M. Jones is proceeding with the development of the 40-acre lease upon which his one well has been completed and upon which all of his operations in this field have been confined. He has reached the top of the producing formation in his second well, Crain 2, at 3010 feet, and is arranging to set and cement casing at that depth. Almost equal progress is being made in his Crain 3 and 4, which will be drilled down to the sand in short order. Crain 1 is flowing 2000 barrels of fluid a day, 400 barrels of which is oil. The Garrett-Modisette Drilling Company's Gregory well, located in section 10-17-14, has sanded up after having pumped 170 barrels of heavy oil during the first 10 hours of operation, from 2765 feet, and is now running sand pump in an effort to clean out the hole. This well, while only slightly more than a mile southwest of the operations in sections 1 and 2, is producing from an entirely different strata of sand.

The Richland Parish gas field recorded the completion of two large gas wells during the week, when the Natural Gas & Fuel Corporation and Moody & Seagraves successfully brought in wells on their adjoining leases in sections 19 and 20-16-6e. The Natural Gas & Fuel Corporation's well, Sortor B-2, was the larger of the two, being credited with an initial output of 62,000,000 feet of gas from 2445 feet. The rock pressure of the well was 1120 pounds. Moody & Seagraves' Hemler B-1 well blew in with an estimated production of 50,000,000 feet of gas at 2440 feet. The Gulf Refining Company has secured a permit to drill a test well in section 20-18-6e, of this parish, in an effort to link the Monroe gas field with the present producing sand in the Richland Parish field. This test, Chess-Wymond Company 1, is situated near Crew Lake, about midway between the two fields, and work will be started immediately. The Gulf has secured a large block of acreage in this section upon which it plans to do considerable prospecting, similar to the work that was being conducted at the time the Richland Parish field was discovered by them in February of this year. This district is the most active of the entire Louisiana territory at the present time, there being approximately 25 rigs in operation in the sector in which production has been proven.

Very little progress was made in the Trinity sand development in the Pine Island field, of Caddo Parish, during the week, due to the treacherous nature of the formations through which the deep drilling wells are required to penetrate. The Arkansas Fuel Oil Company has drill stem stuck in Lane 1, in section 13-21-15, at a depth of 4090 feet, with indications that it will be some time before it will be recovered and operations resumed. Several wells have been drilled down to the top of the producing sand, and should be tested before the week end. Among these is the Dixie Oil Company's Clark 9, in section 23-21-15, now bailing at 3894 feet; Caddo Mineral Lands 9, section 23-21-15, in which casing has been set at 3669 feet, after testing a show of gas at 3681 feet. The Gulf Refining Company also has a well with casing set on top of the sand, in Tyson 14 well in section 14-21-15, which was deepened from the producing sand around 3600 feet, and now has 4¾-inch casing set at 3934 feet. The Texas Company has set casing in two of its wells on the Caddo Mineral Lands lease, in section 23-21-15, and is now coring at 3925 feet in Herold 10, in section 14-21-15, and drilling at 3923 feet in Mabry 10, in section 15-21-15. All four wells should be tested within the next few days. Also, its Raines 19, located in section 15-21-15, is now being tested at 4036 feet.

The Palmer Corporation's White 1, in section 2-19-10e, West Carroll Parish, a wildcat that has been watched with unusual interest during the past few weeks, tested salt water at 2466 feet, when it was bailed for three hours on December 18. It has now been closed in and apparently abandoned. It was thought at one time that this well would be completed as a gas well, due to its favorable location and because of several good shows of gas that were encountered toward the latter part of the drilling.

Los Angeles To Have Christmas Party

Los Angeles.—Elaborate plans are being drawn by the Wildcats, entertainment committee of the Chamber of Mines and Oil, for the organization's annual Christmas Jinks, which will be held at noon, December 23, at the Ambassador Hotel. The Wildcats have promised that long-winded speeches will be taboo, and only unadulterated joy will be allowed. The playlet, "So's Your Oil Man," which was first presented at the Jinks a year ago, and recently presented at the Chicago A. P. I., will again be given, with many added frills and thrills, according to the Wildcats themselves.

Bulletin Notice

The Hazard Manufacturing Company, Wilkes-Barre, Pennsylvania, announces the publication of a booklet called "Fathers of Industry," which gives a historical sketch of the company. Copies may be had on request.

A. P. I. Instructions for Attaching Sockets to Wire Rope—Standard Form of Groove

Instructions for Attaching Sockets to Wire Ropes

18-a. The rope shall be securely seized and served with soft wire ties before cutting and at least two additional seizings placed at a distance from the end equal to the length of the basket of the socket. For large ropes the seizing shall be several inches long and securely wrapped with a seizing iron. This is very important, as it prevents the rope untwisting and insures equal tension in the strands when the load is applied. (See Fig. 5 of U. S. Govt. Master Specifications for Wire Rope No. 297, as per Fig. 5.)

18-b. The rope being properly seized shall be inserted through the socket or mandrel then end seizing taken off. Care must be taken that the lay of the line is not allowed to untwist. The hemp center shall be cut back to the seizing and the wire shall be untwisted and broomed out, although they need not necessarily be straightened.

18-c. The wires for the distance that they are to be inserted in the socket, shall be carefully cleaned with benzine, naphtha, or gasoline, and then the wires dipped for a distance not greater than three-quarters of the cleaned length of the wire in commercial muriatic acid for from 30 seconds to 1 minute, or until the acid has thoroughly cleaned each wire. Care should be taken that the acid does not come into contact with any other portion of the rope. If it does, the wires will become brittle.

18-d. The wires should be dipped in boiling water containing a small amount of soda to neutralize the acid.

18-e. The wires should be inserted into the basket of the socket. Care should be taken that the socket is in line with the axis of the rope.

18-f. The base of the socket should be sealed with putty, clay or any similar substance. Pour molten zinc into the basket until it is full.

18-g. The zinc must not be too hot or it will anneal the wires, particularly for small ropes. The temperature shall not be above 830 degrees Fahr. When the zinc has solidified sufficiently, the socket may be plunged into cold water. If socketing is properly done, the strands will break near the middle of the specimen, not at the end of the basket. Pine stick test to be made. If it chars but does not ignite, then zinc is ready to pour. If zinc is overheated it has a red color and stick will catch fire.

18-h. Do not use babbitt metal or lead for socketing wire rope. If they are used, the strength of the fastening will be much less than the strength of the rope.

Fig. 5.
PUTTING A SEIZING ON A WIRE ROPE. From U. S. Gov. Master Specification No. 297

(1) Wind the seizing wire on the rope by hand, keeping the coils together and considerable tension on the wire. (2) Twist the ends of the wire together counterclockwise by hand so that the twisted portion of the wires is near the middle of the seizing. (3) Using "Carew" cutters, tighten the twist just enough to take up the slack. Do not try to tighten the seizing by twisting. (4) Tighten the seizing by prying the twist away from the axis of the rope with the cutters. (5) Tighten the twist again as in (3). Repeat (4) and (5) as often as is necessary to make the seizing tight. Cut off the ends of the wires and pound the twist flat against the rope. (6) The appearance of the finished seizing.

Forms of Groove for Wire Rope

B-5. The grooves of drilling and casing line sheaves shall be made for 1" rope as standard. The bottom of the groove shall have 150 degree arc of support with a radius of 17-32" with a sheave manufacturing tolerance of plus 1-64 minus 0. The depth of the groove shall be 1¾ times the diameter of the rope. The sides of the groove shall be tangent to the ends of the bottom arc. See Paragraph B-6 for size of rope other than 1". (See Fig. 8.)

(NOTE: *The above is calculated in accordance with the basic formula shown in paragraph*).

B-6. The groove for any other size of drilling and casing line is to be specified by the purchaser, the radius of the bottom of the groove to be:

$$R = \frac{D+t}{2} + \text{Sheave Manufacturing Tolerance of } +1/64" - 0"$$

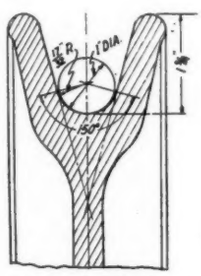
where R=radius of bottom of the groove, in inches
D=nominal diameter of line, in inches
t=specified plus tolerance of line, in inches.

The depth of the groove to be 1¾ times the nominal diameter of the rope, and to have a 150 degree arc of support.

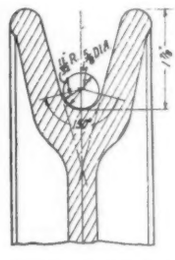
B-7. The groove for sand line sheaves shall be made for ⅝" rope as standard. The bottom of the groove shall have a 150 degree arc of support, with a radius of 11-32" with a sheave manufacturing tolerance of plus 1-64" minus 0. The depth of the groove shall be three times the diameter of the rope. The sides of the groove shall be tangent to the ends of the bottom arc. (See Fig. 8.)

(NOTE: *The above is calculated in accordance with the basic formula shown in paragraph B-6, except that the depth of the groove was made three times the diameter of rope.*)

B-8. Sheaves having grooves made according to the foregoing specifications should be marked plainly with the size of line for which the sheave is designed.



A.P.I. Standard Groove for Casing and Drilling Line Sheaves.



A.P.I. Standard Groove for Sand Line Sheaves.

To the above Groove Radius may be added a Manufacturing Tolerance=+1/64"—0"

B-9. It is recommended that the hole in the rope socket and sockets for swivels be 5-32" larger than the line to be inserted.

B-10. Combination sheaves for manila and wire lines are not recommended.

B-11. Grooves on rollers of oil savers should be made to the same tolerance as the grooves on the sheaves.

Reproduction of the sample poster prepared by the Division of Standardization on A. P. I. Instructions for Attaching Sockets to Wire Rope.

A. P. I.
Recommended Practices To Be Observed To Obtain Maximum Life From Manila Cordage

Storage of Rope

A-1. (a) Dirty rope should be washed and thoroughly dried before storing. All rope should be thoroughly dry.

(b) All rope should be stored in a dry and well ventilated warehouse. It should be kept as cool as possible but not allowed to freeze. It should not be stored longer than necessary and never longer than one hot season. It may be placed on wooden floors providing same are well ventilated underneath, but it would be better if it were placed on racks. If stored in warehouse with concrete floor the rope should always be placed so that there will be an air space between rope and floor. Under no circumstances should manila cordage and acid be stored in the same building. If covered with galvanized iron, allow ample space above rope and cover for air circulation.

Size of Sheaves

A-2. Sheaves should be as large in diameter as possible. The larger the diameter of the sheaves the longer the rope will last. Data covering sheave size can be had from many mechanical engineers' handbooks.

Diameter of Catheads

A-3. It is recommended that the minimum diameter of cathead be 10 inches and that they be made of a wear-resisting material in order that groving by wear will be minimized. Rope should not be allowed to chafe on cathead when not under load.

Uncoiling Rope

A-4. (a) Place coil flat with "inside" end down and draw end up through center of coil to avoid kinking.

(b) An ordinary right laid rope should uncoil counter-clockwise; a drilling cable (left laid) should uncoil clockwise.

Protection Against Mechanical Injury

A-5. (a) Avoid dragging rope through dirt and oil, since dirt on the surface of the rope increases wear.

(b) Rope should not be allowed to rub on rough surfaces of beams, blocks, etc.

(c) Kinking should be avoided, since it disturbs the "lay" of the rope and is liable to cut the rope in two.

Field Usage

A-6. (a) It is recommended that old cable be used for "spudding in."

(b) It is recommended that a rope be loaded to not more than 20 per cent of its tensile strength.

(c) Avoid wetting ropes when under load, since wet fibers swell.

(d) The load should be taken off of taut rope when not in service.

(e) A rope should not be subjected to sudden loads.

(f) While drilling, the cable should be loose enough to avoid jerking and tight enough to avoid chafing against the sides of the hole.

(g) Dirt and sand should not be put on bull ropes to increase friction, but twists should be put in to shorten the lay of the rope.

Standard Size and Forms of Grooves

B-1. No standard shall be approved for a Crown Pulley having a combination groove for both manila and wire lines.

B-2. The groove of the tug rim and bull wheel grooves shall be made for 2½" rope as standard; the undivided angle shall be preferably 60 degrees but in no case greater than 80 degrees: the depth of the groove shall be not less than 2⅛" nor more than 2⅝"; the bottom of the groove shall be made with a ½" radius with a tolerance of minus 0, plus ⅛"; the edges of the groove, or tops of the groove, shall be rounded with not less than ½" radius.

B-3. The standard groove for manila drilling cable shall be made for the 2¼" cable. The bottom of the groove shall be an arc with a radius of 1⅜". The sides of the groove shall be tangent to the ends of this arc, and shall have an included angle of 30 degrees. The depth of the groove shall be 2½". (See Fig. 1).

(This form of groove calculated in accordance with basic formula given in paragraph B-5.)

B-4. The groove in the derrick line sheave shall be made for 1¼" manila rope. The bottom of the groove shall be an arc with a radius of ¾". The sides of the groove will be tangent to the ends of this arc, and shall have an included angle of 30 degrees. The depth of the groove shall be 1½". (See Fig. 1).

(NOTES *The above is calculated in accordance with the basic formula in paragraph B-5.*)

B-5. For sheaves for any other size manila drill lines, and other manila lines, the bottom of the groove shall be an arc having radius equal to

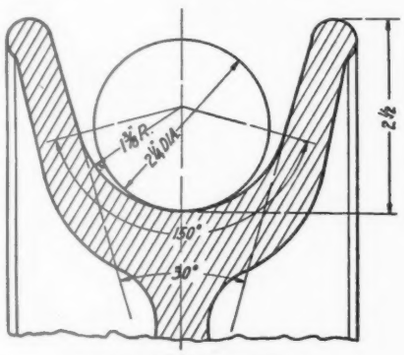
$$R=(D+t)/2+⅛"$$

where R=radius of bottom of grooves, inches
D=nominal diameter of line, inches
t=specified tolerance in line diameter, inches.

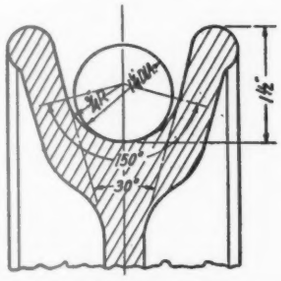
The depth of the groove shall be 1⅛ times the nominal diameter of the line.

The sides of the groove shall be tangent to the ends of the arc forming the bottom of the groove and shall have an included angle of 30 degrees.

N. B.: *The radius "R" should be expressed in values not less than sixteenths of an inch. Should the solution of the above equation result in a fractional part of an inch smaller than 1/16", the value found should be increased to the next higher sixteenth.*



A.P.I. STANDARD GROOVE FOR CROWN SHEAVES



A.P.I. STANDARD GROOVE FOR DERRICK OR CAT LINE SHEAVES

Fig. 1.

For further information apply to

A.P.I. DIVISION OF STANDARDIZATION
1508 Kirby Bldg., Dallas, Texas

Reproduction of the sample poster prepared by the Division of Standardization on Practices to Be Observed to Obtain Maximum Life From Manila Cordage.

A. P. I. Instructions and Suggestions Care and Use of Wire Rope in the Field

Recommended Practice for Use and Preservation of Wire Rope

A-1. Socketing line into socket, clean wires and socket with acid and use zinc. Zinc must not be heated too hot. The rope is to be parallel with the axis of the socket for a distance of at least 5 feet.

A-2. All wire lines to give maximum life should be kept continually lubricated.

A-3. Wire line thimbles and clamps when used as rope end attachments should provide sufficient bearing so as not to put excessive strain at any point. Refer to Fig. 6 for the best method of attaching wire rope clips.

A-4. Recommend that field men use a proper apparatus when removing line from reel to drums. Reel apparatus should have a brake so that line can be tightly spooled on drums.

A-5. Do not strike wire line with hammer, derrick hatches or crow bar or cause any unnecessary nicks or bruises on wire.

A-6. String blocks to give minimum wear against sides of grooves in sheaves and observe that all sheaves are in proper alignment and are true in bearings.

A-7. Keeping line tightly and evenly wound on winding drums. Excessive speeds when blocks are running up light do much injury to wire rope.

A-8. Keep wire line grooves in sheaves to proper form by proper testing and refinishing if necessary.

A-9. Hardened metal, such as manganese or special alloy steel, heat-treated, will best serve for grooves in sheaves. Grooves to be made to proper design and to be smoothly finished concentric with the bore or shaft.

A-10. All rotating sheaves should exert a minimum turning effort and should be properly lubricated.

A-11. Sheaves should be used only for the size of line for which they are grooved.

A-12. After stringing new wire rope on blocks and sheaves, run with light load for short time to set rope to working conditions. Use lubricant while so doing.

A-13. Sudden, severe stresses are injurious to wire rope and should be reduced to minimum.

A-14. Before cutting a wire rope, see that both ends are securely seized with wire each side of cut. (See Fig. 5.)

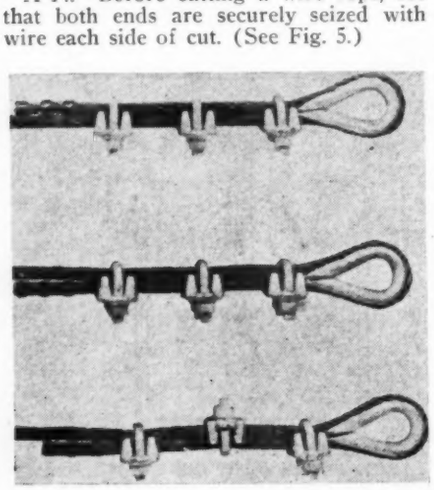


Fig. 6

ATTACHING CLIPS TO WIRE-ROPE

Above: Correct way to fasten wire rope with Clips. Below: Two wrong ways to use clips for fastening wire rope.

The roddle should be in contact with the long end of the wire rope and the U-Bolt in contact with the short end of the loop in the rope.

A-15. Experience has proved that fatigue and wear increase with speed; economy results from increasing load (within the safe limits) and diminishing speed.

A-16. Great care is to be taken to avoid kinks in a wire line.

A-17. Care should be taken that the proper form be maintained in the throat of groove in drilling clamps gripping the rope. Slipping of wire rope through drilling clamps should not be allowed.

A-18. The splicing of wire rope requires considerable skill. The instructions for splicing wire rope are too long to be given here. They will be found in the catalogues of most of the wire rope manufacturers. The sequence of the operation is carefully described and many clear illustrations show the progress of the work in the hands of experienced workmen. These illustrations give, in fact, most of the information which a person would receive by watching the making of a splice by skilled hands.

A-19. Jack up reel of rope as near as practicable to the drum and parallel to it with a direct lead to the drum or crown sheave wherever possible.

A-20. If winding rope direct from reel to drum, wind it in the same direction as it comes off from the reel, i.e., wind from the top of reel to top of drum, or from bottom of reel to bottom of drum. This will make the rope wind better and tighter.

A-21. Keep a tight tension on rope while it is being wound on drum.

A-22. Do not use a larger sized rope on sheaves that have been used for a smaller rope unless the sheave grooves are turned out to the larger size, or preferably install a new sheave with the proper size of groove.

A-23. Keep wire lines well lubricated with a good grade of lubricant, free from acid or alkali, and one that will penetrate and adhere to the ropes. Do not use crude oil or cheap dope that contains chemicals that are injurious to rope and will cause deterioration or brittleness of the wires in the rope.

A-24. If wire line becomes covered with dirt or grit clean it off with a brush. This will save a lot of wear on the line.

A-25. Be sure that the fast sheave in rotary or cable tool work lines up with the center of the winding drum in order to secure the closest possible winding of the rope on the drum, bull and calf wheel shafts.

A-26. When replacing a worn out rotary line with a new line always wind it upon the drum under tension, using not over eight or ten stands of pipe in the hole. This will break rope in gradually by pulling this length of pipe. Do not operate a new line loosely wound on drum or when lowering pipe into the hole.

A-27. A suitably designed starting wedge integral with the drum or shaft is essential to secure helical winding of the first layer of rope on the winding drum, in addition to the usual precautions for tight winding.

A-28. In rotary cable tool drilling always use sufficient parts of rope to handle the casing or drill pipe. Do not overstrain a rope by using only four parts in the blocks when six should be used. Four parts of rope will handle approximately two-thirds as much load as six parts.

A-29. In rotary drilling when using a four part line in the casing block the surplus line should be carried on the calf wheel. In the absence of a calf wheel care should be taken to see that the clamps used to fasten the rope for dead ending do not kink, flatten, or crush the line. The use of properly designed clamps (not a U-bolt clip) will prevent this damage.

A-30. Do not use scored, corrugated or worn drum or shafts, as this will cause excessive wear on the line.

A-31. For existing drum conditions a rope speed for hoisting or lowering should never exceed 4000 feet of rope travel per minute. With larger drums proportionately higher speeds may be used. This speed limitation also applies to cable tool rigs.

Field Troubles and Their Causes

WIRE LINE TROUBLE	CAUSE
C- 1. Lines that are broken square off.	Overstrain, kink, damage or localized wear weakening one or more strands and loss of elasticity.
C- 2. One or more whole strands parting.	Overstrain, divider interference or local wear. If overstrain is sudden it will cause a square-off break. In some cases it will show a necked-down condition of wires.
C- 3. Undue corroded condition of rope.	Lack of proper lubrication, very bad salt or alkaline water in hole. Periods of idleness between jobs.
C- 4. Ropes damaged by careless handling in hauling to wells or location.	Rolling reel over obstruction or dropping from truck or wagon on to any hard material that will result in distorting or damaging rope. The use of chains for lashing or use of lever against rope instead of flange.
C- 5. Ropes damaged by improper socketing.	Improper seizing which allows slack from one or more strands to work back into rope, or poor workmanship in socketing. Frequently shown by being untwisted at socket, loose or drawn.
C- 6. Ropes showing kinks, dog legs, and other distorted places.	These are all the result of improper handling or installation.
C- 7. Ropes damaged by hooking back slack too tightly to girt.	Operation of walking beam causes a bending action on wires at clamp and results in fatigue and cracking of wires, frequently before rope goes down into hole.
C- 8. Ropes used on a fishing job.	All such jobs overstrain a rope from the nature of the work.
C- 9. Ropes used for swabbing.	This operation usually overloads a rope and service is therefore irregular.
C-10. Ropes showing excessive wear in spots.	Kinks or bends in rope due to improper handling during installation or service, also wear against casing or hard shells or collars in hole.
C-11. Ropes broken starting bits or fighting caves.	Overstrain on rope causing excessive stretch and distortion.
C-12. Spliced lines.	A splice is never as good as a continuous piece of rope and slack is liable to work back and cause irregular wear in splice itself.
C-13. Injury due to slipping rope through clamps.	Abrasion and broken wires in a straight line. Drawn or loosened strands.
C-14. Ropes damaged by irregular or improper winding on shaft or drum.	Lack of attention when rope is installed, resulting in putting bends into rope.
C-15. Damage due to improperly fitted clamps.	Produces unequal pressure and distortion of wires and rope.
C-16. Ropes operated with sheaves or drums worn out or out of proper alignment.	This results in side wear on rope and cutting away of sheave flanges.
C-17. Ropes worn out in service.	Natural wear and deterioration, wires worn down on crowns. Also due to sharp sand and friction against casing.
C-18. Fatigue breaks in wires.	Excessive vibration due to poor drilling conditions, i. e., high speed, rope whipping.
C-19. Spiraling or Curling.	Allowing rope to drag or rub over pipe, sill, or any object, during installation or operation. Always use a block with sheave 19" diameter or larger when installing, (and tubing block is suitable).
C-20. Ropes showing excessive flattening or crushing.	In rotary drilling the pulling of stuck casings, loose winding on the drum or cross winding. In standard tools the taking off of your storage reel.
C-21. Core-popping.	Hitting fluid with excessive speed.
C-22. Whipping off of line.	Running too loose.

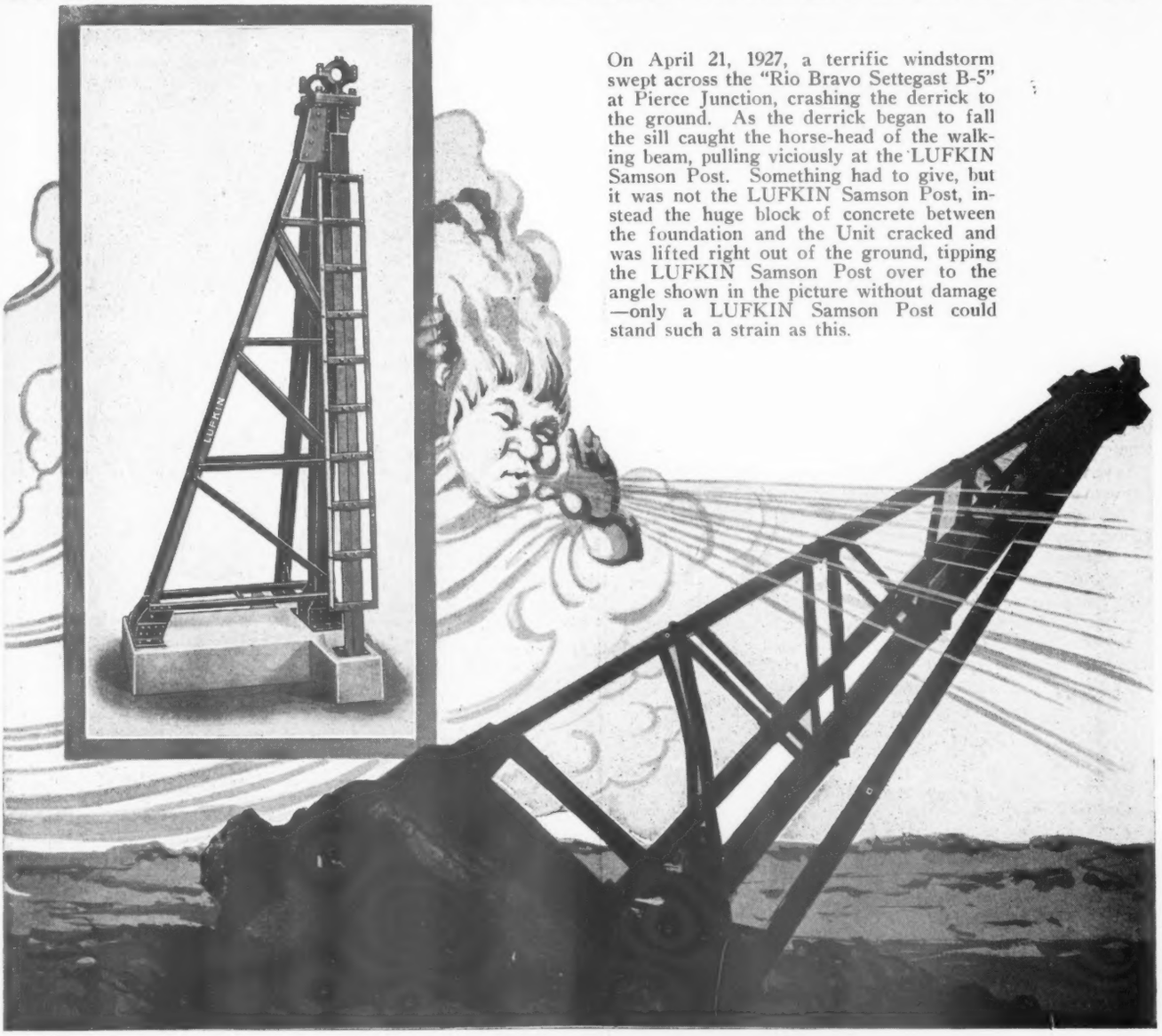
For further information apply to

A.P.I. DIVISION OF STANDARDIZATION

1508 Kirby Bldg., Dallas, Texas

Reproduction of the sample poster prepared by the Division of Standardization on Proper Care and Use of Wire Rope in the Field

Only a
LUFKIN
SAMSON POST *Could stand the strain*



On April 21, 1927, a terrific windstorm swept across the "Rio Bravo Settegast B-5" at Pierce Junction, crashing the derrick to the ground. As the derrick began to fall the sill caught the horse-head of the walking beam, pulling viciously at the LUFKIN Samson Post. Something had to give, but it was not the LUFKIN Samson Post, instead the huge block of concrete between the foundation and the Unit cracked and was lifted right out of the ground, tipping the LUFKIN Samson Post over to the angle shown in the picture without damage —only a LUFKIN Samson Post could stand such a strain as this.

Manufactured at Lufkin, Texas
By
THE LUFKIN FOUNDRY AND MACHINE CO.

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LOS ANGELES TULSA NEW YORK HOUSTON

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Say you saw it in The OIL WEEKLY

Waite Phillips Chairman Independent Oil & Gas

Tulsa, Okla.—Refinancing and reorganization that have been going on with the Independent Oil & Gas Company for several months past has culminated in the selection of Waite Phillips as chairman of the board, the addition of several other officials and directors and the amalgamation of the Philmac Company with the Independent.

Officials of the Independent will retain their places, with E. H. Moore as president.

The action of directors of the Independent Oil & Gas Company is taken to mean the re-entry of Waite Phillips into the petroleum activity of the Mid-Continent in a way to compare with his position, prior to the sale of the Waite Phillips Company to the Barnsdall Corporation more than a year ago.

After selling his former company, Mr. Phillips went into several lines of business, including banking and real estate, as well as oil. His connection with the Independent will not likely hinder his activities in real estate and banking.

Along with his other ventures, he formed the Philmac Company and R .Otis McClintock went with Phillips in this company, as did other men, who had been in the Waite Phillips Company. McClintock was formerly with the Gypsy Oil Company as vice president.

Several months ago W. C. Durant, the automobile manufacturer, announced his withdrawal from fields other than motor manufacturing. He resigned from the directorate of the Independent Oil & Gas Company. Following this, Ralph Pringle, a former executive of the Waite Phillips Company, went with the Independent as vice president. This was interpreted as the entry of Waite Phillips into the affairs of the Independent concern.

Oxford Pool Increased to Lead in Kansas

Oxford, Kansas.—Alco Oil Company-Amarada's Gassaway 1-A, in Section 14-32-2, the southwest extension to Oxford townsite pool, flowed 190 barrels initial yield after a 180-quart shot in sand at 1970-2071 feet, Friday of last week, a performance which places this area in the lead of all Kansas producing sections. It is paying off from the same horizon as that found in Roxana's Emrich 4, which a few days previous came in for the biggest well in Kansas, with a potential output of around 3000 barrels. The new well was flowing by heads through eight-inch casing, but at the close of the week, six-inch was being run for the purpose of giving it chances for a more steady flow.

Derby Oil Company's Blank 1, in the old townsite pool, flowed 850 barrels late in the week after being agitated and increased from a 500-barrel flow in 24 hours. Depth of this hole is 1253 feet, Topeka lime production, topped at 1246 feet.

The two big wells in the southwest extension are producing from Stalnaker sand. Roxana's Emrich 4 made 140 barrels an hour Saturday.

There were 12 operations in the southwest extension at the close of the week, including the three producers. Mead Brothers' Gassaway 1, the discoverer of the extension pay, was making 93 barrels Saturday. Total output of the Oxford field declined to 8615 barrels due to decline in several of the old wells to the north, in the townsite section.

Poling & O'Shaughnessy were drilling Saturday in the second Topeka lime in Wenrich 1, and location was staked for Wenrich 1-A, in the northeast of the northeast of the northwest of Section 23-32-2e. McKnabe-Bess Oil Drilling Company made location during the week for Veail 1, in the southeast corner of Section 22-32-2e, a half mile southwest of the nearest activity in the extension. At the time this location was made, Roxana's Wenrich 1 had 200 feet of oil in the hole, having topped the Stalnaker sand at 1952 and found oil at 1968 feet, and was drilling at 1990 feet. Ramsey Brothers' Caldwell 1, in the southeast corner of the southwest of the northwest of Section 22, was a location, also about a half mile south of the big producers in the southwest extension.

Great Falls, Mont. — Community Drilling Company of Poplar has raised funds with which to clean out and deepen the oil well drilled in the town's "back yard" some years ago. The hole is now bottomed at 2500 ft.

Five Point Holding Company, capitalized at $3,000,000 and with holdings throughout Montana, will back a deep test on a wildcat structure near Whitetail in northeastern Montana, according to recent announcement. This test will be drilled near an oil seep which first called attention to the possibilities fo that area.

According to E. W. Downing, president of the Round Butte Development Company, the well on Round Butte structure is rigged and ready to spud. The location is near Ronan in western Montana.

Dutton Dome

Great Falls, Mont.—Dutton Dome is increasingly interesting with the announcement of Texas Pacific Coal & Oil Company of its purchase of acreage southwest of the test which is to be drilled immediately by W. E. Elliott on se sw 2-24n-1w. This structure is 40 miles of Great Falls. Dutton Dome is structurally higher than Bannatyne where drilling during the last summer has proved the conditions in Sweet Grass Arch to be most favorable.

W. N. O'Connor, Atlantic Oil Producing Company treasurer, Philadelphia, spent several days in Oklahoma last week, visiting Tulsa and Seminole en route east from a tour of West Texas fields.

Gulf Coast Completion Average Up

Houston—Although the total number of tests completed in the Texas Gulf Coast country during the past week was only 12, there were nine producers among them and these wells together supplied approximately 7,000 barrels of new oil, the average per well being somewhat high, because of fairly large producers at Hull, Spindle Top, Pierce Junction and Blue Ridge.

The largest well of the week was Gulf Production Company's Phoenix Development Company 43 at Hull, which, after being deepened to 3100 feet, began flowing at the rate of 2100 barrels a day. In the same field Republic Production Company deepened its Dolbear 49 to 3025 feet, at which depth it came in for a flow of 200 barrels of pipe line oil.

Gulf also completed a good well at Spindle Top, the Jack and Duff 6, which had an initial flow of 1000 barrels from 4900 feet. J .O. Davis' Gladys 2, in that field, has been abandoned at the unusual depth of 6050 feet.

Blue Ridge furnished three completions during the week, one failure and two producers. The larger well of the two was Gordon, Folwell, Dickson & Sharp's Blakely 1, which flowed 880 barrels of pipe line oil initial from 2800 feet, and the other was Cunningham Production Company's Blakely 1, which, after being deepened, was put on the pump and began producing 200 barrels, 40 per cent b.s. and water, from 2850 feet. Cunningham's Blakely 3 in this field was abandoned in salt at 3210 feet.

At Pierce Junction Rio Bravo Oil Company completed Settegast A-1 over a week ago for an initial flow of 1900 barrels from 4382 feet, the production at that time being pipe line oil that tested 27.8 gravity. Early this week, however the well was making only about 500 barrels, of which 22 per cent was water. This producer was the discovery well on the west side of the field, its original depth being 3880 feet, at which level it came in for an initial flow of 3000 barrels. The original completion was made in September, 1925. Rio Bravo is now deepening the Settegast A-7, and early this week was down to 3965 feet. A second completion at Pierce Junction during the week was Joe Bashara's Higgins 2, which made 85 barrels initial on the pump after the old hole had been deepened to 3560 feet.

Orange also supplied some new oil through the completion of two wells by Gulf Production Company. The Hager & Moore 1 flowed 500 barrels, 90 per cent water, from 3600 feet, and the Lee Hager Fee 2 came in for an intial flow of 760 barrels, 25 per cent b.s. and water, from 4150 feet.

At Barbers Hill the Humphreys Corporation abandoned Kirby 6 at 2400 feet.

Merry Christmas

Moore
TUBULAR STEEL DERRICKS

LEE·C·MOORE & CO·INC·PITTSBURGH·TULSA

Say you saw it in The OIL WEEKLY

West Texas Production

CRANE COUNTY

	Producing Wells	Daily Average Prod.
Church and Fields—		
Simms Oil Co. & Atlantic Oil Prod. Co.	28	26,210
Prairie Oil & Gas Co.	11	*13,530
Landreth Production Corporation	16	12,220
Tidal Oil Co. & Turman-Maxwell	22	9,135
Eastland Oil Co. & Collett-O'Keefe	8	7,820
Humble Oil & Refining Co.	13	6,540
Magnolia Petroleum Co.	30	4,945
Pecos Oil Company	12	4,730
Independent Oil & Gas Co.	6	*2,445
Gulf Production Co.	10	1,675
Church-Fields & Bert Weekly	3	1,360
The Texas Company	2	270
Geo. Church & Bob Fields	2	195
Stidham & Thrasher	1	15
Totals	164	91,090
Gulf-McElroy—		
Gulf Production Company	55	18,710
Gulf-Waddell—		
Gulf Production Company	1	20
Marland-Hughes—		
Marland Oil Company	16	670
The Texas Company	9	230
McMan Oil & Gas Company	2	70
Independent Oil & Gas Company	1	10
Totals	28	980
Totals for Crane County	248	110,800

UPTON COUNTY

Texas Pacific Coal & Oil Co.	16	2,490
Marland Oil Company	78	2,115
Roxana Petroleum Corporation	36	2,105
The Texas Company	22	1,865
Dixie Oil Company	36	1,860
Gulf Production Company	15	1,630
Prairie Oil & Gas Company	8	1,295
Humble Oil & Refining Co.	10	985
Independent Oil & Gas Company	26	715
Champlin Refining Company	3	700
Orient Oil Operating Co.	1	300
Amerada Petroleum Corporation	6	295
Sun Oil Company	10	195
Snowden & McSweeney	1	195
Wentz Oil Corporation	3	100
Republic Prod. Co. & Marland Oil Co.	5	95
Tidal Oil Company	3	85
Bryant & Atlantic Oil Prod. Co.	2	40
Simms Oil Company	3	40
Atlantic Oil Producing Co.	1	35
McMan Oil & Gas Company	2	25
Texon Oil & Land Co.	1	15
Totals	289	17,180

REAGAN COUNTY

Big Lake Oil Company	123	16,565
Texon Oil & Land Company	80	6,595
Totals	203	23,160

PECOS COUNTY

Mid-Kansas & Transcontinental	33	*22,095
The California Company	9	*8,225
Gulf Production Company	5	*5,960
Gulf Prod. Co. (Crockett County)	2	*505
McMan O. & G. Co. & Marland Oil Co.	11	*5,560
Simms Oil Company	3	*4,960
Humble Oil & Refining Company	5	*2,340
Marland Oil Company	8	*2,180
Roxana Petroleum Corporation	5	*1,360
Crude Oil Company (was Allsman-Bell)	3	*400
Red Bank Oil Company	2	*190
Mazda Oil Corp. & Savoy Oil Co.	1	*175
Kirby Pet. Co. & Edson Pet. Co.	1	*65
Totals	88	54,015

WINKLER COUNTY

	Producing Wells	Daily Average Prod.
Landreth Prod. Corp. & Roxana Pet. Corp.	4	*8,275
Cranfill-Reynolds et al	2	6,695
Southern Crude & R. A. Westbrook et al	3	6,225
Roxana Petroleum Corp.	2	*5,735
Southern Crude & Dixie Oil Co.	6	*5,010
Gulf Production Company	5	*4,770
Atlantic Oil Producing Co.	2	*3,210
Independent Oil & Gas Co.	4	*3,105
Humble Oil & Refining Company	2	*2,930
Magnolia Petroleum Co.	2	2,855
Texon Oil & Land Co.	1	2,035
Republic Production Co.	1	1,665
Murchison Oil Co. & Cranfill Bros.	5	955
The Texas Co. (was Pure)	1	*575
Joe Maxwell & L. C. Turman	1	*35
Llano Oil Co. & Roxana Pet. Corp.	1	20
Totals	42	54,145

HOWARD COUNTY

Magnolia Petroleum Company	41	3,090
Marland Oil Company	32	1,085
Pure Oil Company	4	310
Lockhart & Company et al	7	150
F-H-E Oil Company	2	115
Sweeney & Henry et al	1	110
Bristow & Merrick	3	105
Godley Oil & Gas Company	1	80
Frank M. Greene Corporation	2	65
Vitek Oil Company	1	60
Mid-West Exploration Co.	2	50
Tidal Oil Company	2	40
Humble Oil & Refining Company	2	35
Comet Petroleum Co.	2	25
Marland Oil Co. & Texon Oil & Land Co.	1	25
Owen-Sloan et al	1	20
L. C. Harrison et al	2	20
Gulf Production Company	2	10
Totals	108	5,995

JONES COUNTY

Phillips Petroleum Company	11	840
Marland Oil Company	3	370
Mid-West Exploration Co.	4	145
Stebbins Oil & Gasoline Co.	1	15
Totals	19	1,370

MITCHELL COUNTY

The California Company	96	2,430
Magnolia Petroleum Company	22	530
Atlantic Oil Producing Co.	8	200
Eastland Oil Co. et al	9	175
Tidal Oil Company	2	30
Fred Carey et al	1	20
Totals	138	3,385

CROCKETT COUNTY

Humble O. & R. Co. & Marland Oil Co.	13	800
Cushing Ref. & Gasoline Co.	2	320
Taylor-Link Oil Co. & Kirby Pet. Co.	1	210
E. L. Smith Oil Co.	5	210
Republic Production Co.	2	105
Gulf Production Company	6	100
C. A. Jones et al	1	35
Roxana Petroleum Corporation	1	15
Totals	34	1,915

RUNNELS COUNTY

Vacuum Oil Co. and Hill-Ladd et al.	1	85

LOVING COUNTY

Lockhart & Company et al	2	75

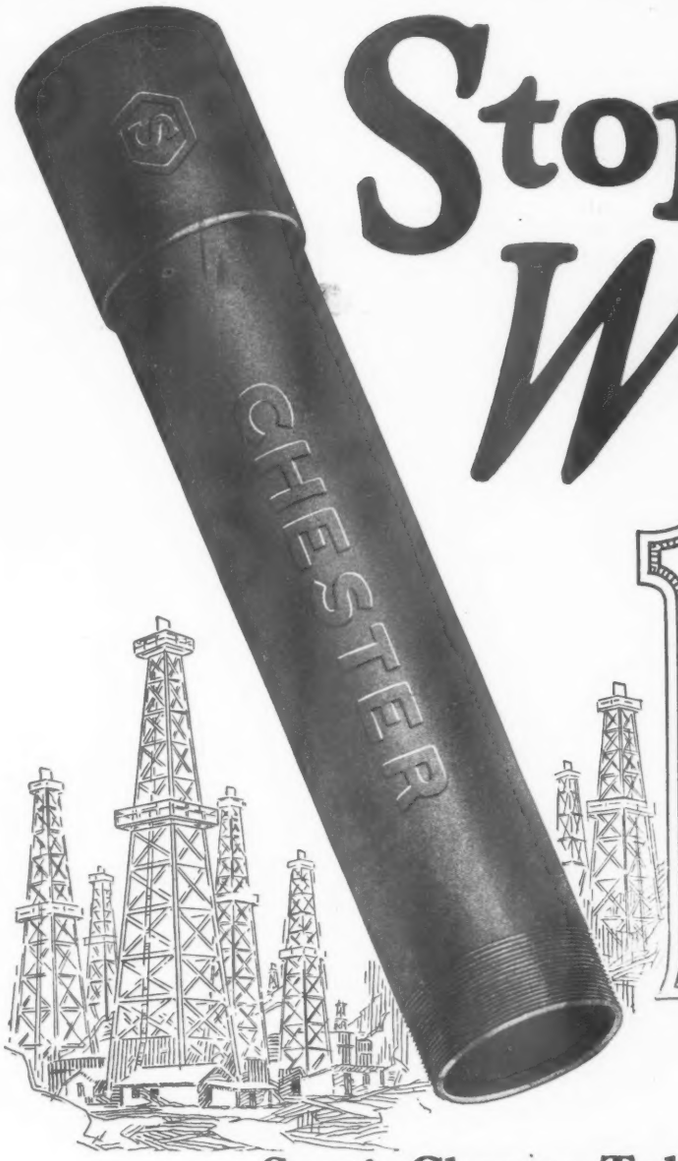
SCURRY COUNTY

The Northwest Company	5	50

ECTOR COUNTY

J. S. Cosden and The Texas Company	1	15
Totals for all fields	1,178	272,190
Totals for previous week	1,156	257,620

(*) Production partially pinched.



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YOU CAN STOP the enormous WASTE of time in well completion, due to leaky pipe collars or imperfectly fitted threads if you install CHESTER Steel Casing and Tubing. Made with a precision and accuracy of thread pitch that means a *seal-tight* fit, tested with instruments as delicately adjusted and true as those of a watch maker, inspected for every detail of alignment, machining, and finish, CHESTER Casing or Tubing will show a record of 100% satisfactory performance that can be measured in years.

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Prichard Supply Co. Mannington, W. Va. Mather and Waynesburg, Pa.

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Kane Supply Co. Kane, Pa.

Wagner Supply Co. Fort Worth, Cross Plains, Breckenridge, Best, Amarillo, Borger, Brownwood, and Odessa, Texas

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Midland Iron Works Billings, Mont.

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STEEL CASING

"and on earth peace,
good will toward men..."
The Continental Supply Company

United States Daily Average Production

Figures below are taken from the complete revised estimates of the AMERICAN PETROLEUM INSTITUTE except for the current week, which are advance estimates issued by the A. P. I. and are subject to revision:

1926	Oklahoma	Kansas	Texas (Outside Gulf Coast)	Gulf Coast	North Louisiana	Arkansas	Eastern States	Rocky Mountain	California	United States Daily Ave.	United States Total
January	445,950	99,600	256,500	90,100	43,800	178,000	100,450	101,700	618,750	1,934,850	59,979,900
February	450,300	102,050	246,600	91,550	45,300	169,400	98,950	101,050	604,950	1,910,150	53,483,900
March	457,900	103,000	260,500	91,950	48,800	165,700	97,800	102,100	604,400	1,932,150	59,897,250
April	464,850	102,600	265,600	90,900	51,550	170,750	101,750	107,300	600,650	1,955,950	58,678,000
May	463,350	106,150	280,050	93,700	59,100	175,700	106,100	111,650	602,400	1,998,200	61,944,950
June	459,100	107,900	305,100	91,350	60,350	166,950	106,050	113,300	607,550	2,017,650	60,529,350
July	456,700	110,450	336,300	116,550	57,100	161,650	104,650	107,750	614,400	2,065,550	64,032,300
August	465,300	111,750	383,800	162,800	56,800	157,350	108,600	110,600	608,900	2,165,900	67,143,450
September	466,050	113,400	403,750	175,200	56,850	153,250	110,200	104,700	598,150	2,181,550	65,446,500
October	503,350	114,650	444,700	169,900	58,200	149,500	109,450	98,500	614,200	2,262,450	70,136,500
November	550,700	115,800	477,000	176,900	56,450	143,700	111,150	92,900	643,650	2,368,250	71,047,550
December	564,250	118,800	480,800	181,900	54,800	138,600	110,050	85,650	660,400	2,395,250	74,252,700
1927											
January	598,500	117,200	466,400	173,900	52,900	131,550	107,850	84,450	653,450	2,386,200	73,972,150
February	693,350	116,250	479,800	154,600	52,800	128,200	107,150	85,300	642,700	2,460,150	68,884,300
March	710,350	116,100	475,000	154,750	51,450	124,500	104,400	87,600	640,850	2,465,000	76,414,900
April	723,700	115,400	477,300	155,100	50,500	113,350	108,000	89,350	644,550	2,477,250	74,317,750
May	742,200	114,600	488,700	151,300	47,450	112,700	114,000	89,300	633,550	2,493,800	77,307,700
June	768,600	112,200	480,800	151,650	49,150	112,450	111,850	86,050	638,550	2,511,300	75,338,900
July	846,750	107,750	475,800	142,950	56,200	109,900	111,800	86,950	620,700	2,558,800	79,322,300
August	832,900	105,100	483,450	139,350	56,950	104,750	114,600	80,750	621,450	2,539,300	78,717,850
September	797,450	105,200	493,750	142,900	53,450	101,350	110,800	74,500	637,250	2,516,650	75,498,900
October	782,300	105,100	497,900	138,400	51,300	100,450	113,600	73,250	629,000	2,491,300	77,230,000
November	766,900	106,650	501,750	138,100	49,400	97,850	114,900	75,050	623,850	2,474,450	74,233,500
December 3	766,000	106,300	507,300	135,850	48,000	96,650	113,750	79,550	626,400	2,480,750	17,365,250
December 10	736,200	106,050	546,500	141,150	47,650	96,100	112,000	74,450	627,400	2,487,500	17,412,500
December 17	720,300	105,050	532,450	141,700	47,200	95,200	111,000	79,950	624,100	2,456,950	17,198,650
Increase	.....	.....	.....	550	.....	.....	.....	5,500	.....	.....	.....
Decrease	15,900	1,000	14,050	.....	450	900	1,000	.....	3,300	30,550	213,850

TEXAS

(Outside Gulf Coast)

PANHANDLE DISTRICT

	Dec. 17	Dec 10.
Hutchinson County	56,350	57,800
Gray County	20,100	19,300
Carson County	7,500	8,100
Wheeler County	1,400	1,250
Others	50	50
Totals	85,400	86,500

NORTH TEXAS

Burkburnett	11,900	12,000
Electra	11,750	11,950
Iowa Park-K-M-A	1,900	1,900
Wilbarger	11,250	11,400
Archer County	23,000	23,500
Clay County (Petrolia)	600	600
Baylor County	100	100
Montague and Cooke Co.'s	15,500	15,750
Totals	76,000	77,200

WEST CENTRAL TEXAS

Stephens County	7,950	7,900
Eastland-Desdemona	9,000	8,650
Brown County	17,500	18,000
Coleman County	1,050	1,150
Callahan County	4,200	4,150
Shackelford County	5,100	5,300
Young County	10,150	9,750
Throckmorton County	1,150	1,300
Jack County	1,200	1,050
Palo Pinto County	450	450
Others	400	400
Totals	58,150	58,100

WEST TEXAS

Jones County	1,450	1,500
Mitchell-Scurry Cos.	3,400	3,500
Howard County	5,950	6,250
Reagan County	22,950	22,950
Crane-Upton Counties	121,100	127,700
Crockett County	3,500	2,700
Pecos County	45,300	54,200
Winkler County	54,300	50,500
Others	2,700	2,500
Totals	260,650	271,800

EAST CENTRAL TEXAS

Mexia	8,450	8,300
Currie	600	550
Richland	700	700
Wortham	2,300	2,400
Corsicana-Powell	13,150	13,300
Nigger Creek and Cedar Creek	2,050	2,050
Totals	27,250	27,300

SOUTHWEST TEXAS

Luling	14,250	14,500
Lytton Springs	1,600	1,600
Somerset	850	850
Laredo District	7,500	7,850
Dale	400	400
Others	400	400
Totals	25,000	25,600
Total Texas (Outside Gulf Coast)	532,450	546,500

TEXAS GULF COAST

West Columbia	8,600	8,500
Damon Mound	800	900
Big Creek	2,450	2,500
Boling	2,750	2,550
Blue Ridge	4,200	4,000
Pierce Junction	15,300	13,400
Humble	1,950	1,800
Goose Creek	7,650	7,800
South Liberty	2,300	2,300
Hull	12,700	13,950
Saratoga	1,000	1,050
Batson	1,300	1,250
Sour Lake	3,900	3,900
Spindle Top	55,000	55,050
Orange County	3,850	3,900
Barbers Hill	950	1,200
Others	2,750	2,500
Totals	127,450	126,550
Texas Total	659,900	673,050

OKLAHOMA

North Braman	2,850	2,950
South Braman	2,050	2,050
Blackwell	3,850	3,900
Hubbard	2,850	2,850
Thomas	1,950	2,000
Tonkawa	15,550	16,350
Garber	10,050	9,850
Burbank	36,900	37,400
Osage (outside Burbank)	29,850	30,050
Watchorn	1,500	1,500
Cushing	21,100	21,000
Yale-Jennings	9,100	9,400
Davenport	2,500	2,550
Bristow-Slick	24,600	24,850
North Okmulgee	16,000	16,100
Lyons-Deaner	6,250	6,250
Stroud	1,250	1,250
Cromwell	10,750	10,800
Papoose	5,700	5,750
Wewoka	10,450	10,200
Seminole	55,700	55,750
Bowlegs	112,350	118,150
Searight	22,100	23,450
Little River	40,300	38,900
Earlsboro	150,450	159,300
Duncan District	6,700	6,750
Graham	6,550	6,450
Fox	1,900	1,900
Healdton	14,700	14,600
Hewitt	9,400	9,300
Scholem Alechem	12,400	12,300
Others	72,650	72,300
Totals	720,300	736,200

CALIFORNIA

Santa Fe Springs	38,500	38,500
Long Beach	112,000	112,000
Huntington Beach	61 000	62,000
Torrance	20,000	20,000
Dominguez	14,500	14,500
Rosecrans	8,500	9,000
Inglewood	32,000	32,000
Midway-Sunset	81,000	81,000
Ventura Avenue	53,600	51,900
Seal Beach	43,000	46,000
Others	160,000	160,500
Totals	624,100	627,400

ARKANSAS

El Dorado	6,500	6,100
Smackover Light	9,200	9,300
Smackover Heavy	72,450	73,350
Stephens	1,150	1,150
Nevada	3,150	3,450
Lisbon	2,650	2,650
Others	100	100
Totals	95,200	96,100

KANSAS

	Dec. 17	Dec 10.
Greenwood County	31,100	31,300
Florence-Covert	1,400	1,500
Peabody-Ebling	3,750	3,850
Eldorado-Towanda	14,200	14,250
Augusta-Fox Bush	4,150	4,200
Rainbow Bend	2,100	2,200
Russell	2,250	2,250
Churchill	12,600	14,000
Others	33,500	32,500
Totals	105,050	106,050

NORTH LOUISIANA

Homer	4,550	4,600
Haynesville	6,750	6,800
Caddo Light	11,750	12,050
Caddo Heavy	3,950	4,100
DeSoto-Red River	4,200	4,100
Elm Grove	650	700
Bellevue	1,200	1,050
Cotton Valley	4,900	5,000
Urania	8,500	8,500
Pleasant Hill	750	750
Totals North Louisiana	47,200	47,650

LOUISIANA GULF COAST

Vinton	4,850	4,800
Lockport	5,100	5,250
Evangeline	1,200	1,200
Edgerly	1,500	2,100
Others	1,600	1,250
Total Louisiana Gulf Coast	14,250	14,600
Louisiana Total	61,450	62,250

MOUNTAIN STATES

WYOMING

Salt Creek	42,100	36,300
Grass Creek	2,450	2,350
Elk Basin	800	1,000
Big Muddy	2,750	2,800
Lost Soldier	2,650	2,550
Rock River	2,750	2,700
Lance Creek	1,050	1,100
Others	3,350	3,500
Totals	57,900	52,300

MONTANA

Cat Creek	1,900	1,900
Sunburst	11,000	11,000
Others	150	150
Totals	13,050	13,050

COLORADO

Moffats (Craig)	1,150	1,200
Fort Collins	3,050	2,650
Florence	700	1,050
Others	1,950	1,950
Totals	6,850	6,850

NEW MEXICO

Table Mesa	....	100
Artesia	1,400	1,400
Hogback	650	600
Rattlesnake	....	50
Others	100	100
Totals	2,150	2,250
Totals Mountain States	79,950	74,450

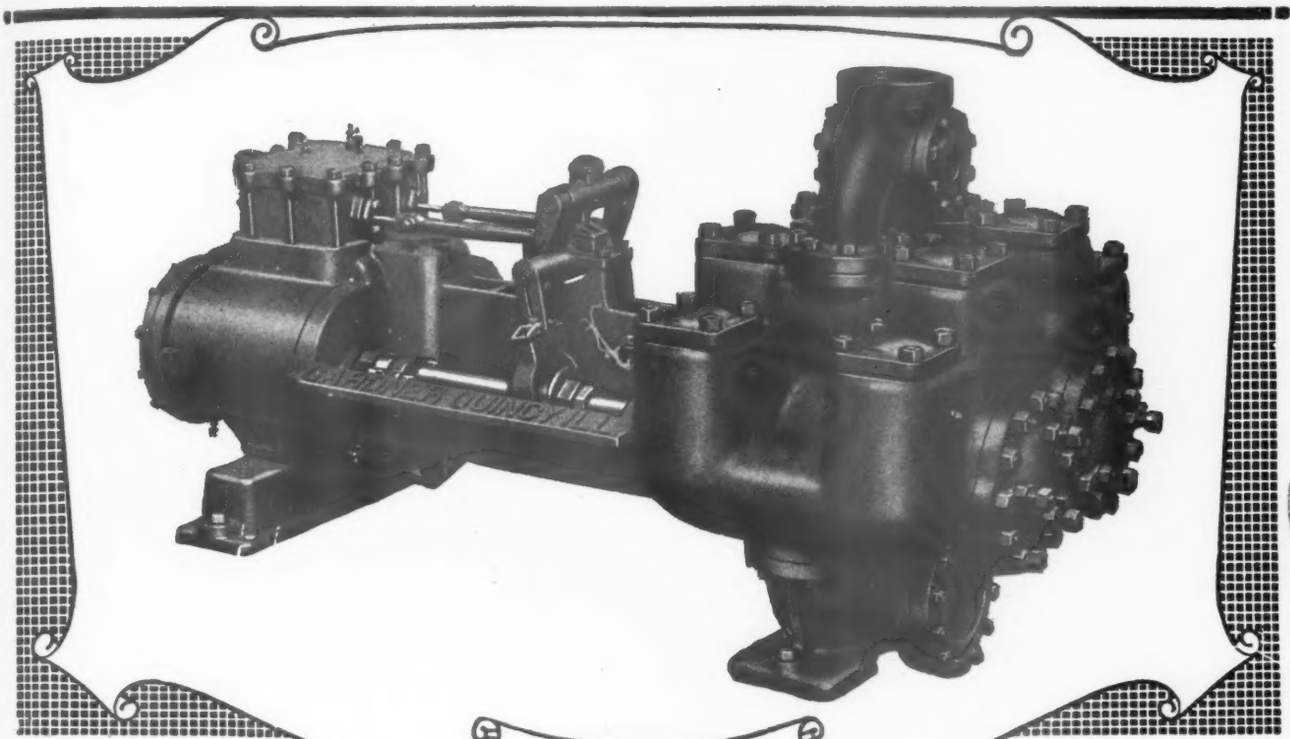
EASTERN STATES

(Including Ill., Ind., Ohio, W. Va., Pa., Ky., and N. Y.)	111,000	112,000

PRODUCTION SUMMARY

East of Rockies	1,752,900	1,785,650
United States	2,456,950	2,487,500

Gardner-Denver Super-Booster



For Heaviest Slush Service

For deep hole drilling where large volume of slush at high pressures is needed the GARDNER-DENVER SUPER-BOOSTER is the pump that handles the job with ease. No more powerful pump is built for slush or oil line service. Normal working pressure, 1500 pounds; steam pressure, 225 pounds.

The new divided fluid end is an exceptionally valuable feature. It decreases breakage, lessens cost of replacements and insures continuous operation. Design provides for direct flow of liquid through the cylinders, largely eliminating trouble due to improper filling.

"Quality Builders for Over 65 Years"

GARDNER-DENVER COMPANY

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International Supply Co., Stores in all principal Mid-Continent Fields.
Norvell-Wilder Hdwe. Company, Beaumont, Houston and Ft. Worth.
The Republic Supply Co. of California, Stores in all Principal California Oil Fields.

GARDNER GOVERNORS PUMPS-COMPRESSORS

GARDNER DENVER

ROCK WAUGH DRILLS

Say you saw it in The OIL WEEKLY

CRUDE OIL PRICE QUOTATIONS

CURRENT POSTINGS

EASTERN STATES

	Dec. 21 1927
New York Transit	$2.65
Bradford District	2.65
National Transit	2.55
Southwest	2.55
Eureka	2.50
Buckeye	2.25
Macksburg	2.80
Gaines	2.60
Somerset	1.50
Cabell	1.40
Ragland	.95
Corning, 35-cent grade	1.45
Corning, 25-cent grade	1.35
Keister	1.10

CENTRAL STATES

Illinois	1.60
Indiana	1.48
Lima	1.71
Plymouth	1.33
Princeton	1.60
Waterloo	1.18
Wooster	1.57

WESTERN KENTUCKY

Posted by Stoll Refining Company for crude from Allen, Warren, Franklin, Davies, Barren, All grades 1.50

MID-CONTINENT

Prairie, Sinclair, Gulf, Texas and Magnolia*

	Dec. 21 1927
28 to 28.9 gravity	1.12
29 to 29.9 gravity	1.14
30 to 30.9 gravity	1.16
31 to 31.9 gravity	1.18
32 to 32.9 gravity	1.20
33 to 33.9 gravity	1.22
34 to 34.9 gravity	1.24
35 to 35.9 gravity	1.26
36 to 36.9 gravity	1.28
37 to 37.9 gravity	1.30
38 to 38.9 gracity	1.32
39 to 39.9 gravity	1.34
40 to 40.9 gravity	1.36
41 to 41.9 gravity	1.38
42 to 42.9 gravity	1.40
43 to 43.9 gravity	1.42
44 to 44.9 gravity	1.44
45 to 45.9 gravity	1.46
46 to 46.9 gravity	1.48
47 to 47.9 gravity	1.50
48 to 48.9 gravity	1.52
49 to 49.9 gravity	1.54
50 to 50.9 gravity	1.56
51 to 51.9 gravity	1.58
52 and above	1.60

*Magnolia's price for below 30 gravity is $1.05. Magnolia's price on Glasscock County crude is 80 cents per barrel, flat, and is also 80 cents on all crude in Howard County that comes from section 136, block 29 W & NW Railway Survey.

NORTH AND CENTRAL TEXAS

Ranger, North Texas, Mexia, Powell, Richland, Wortham, Currie, Moran, Nocona and Lytton Springs crude.

Humble O. & R. Co. and Texas Co.*

	Dec. 21 1927
Below 25 gravity	.90
25 to 25.9 gravity	1.06
26 to 26.9 gravity	1.08
27 to 27.9 gravity	1.10
28 to 28.9 gravity	1.12
29 to 29.9 gravity	1.14
30 to 30.9 gravity	1.16
31 to 31.9 gravity	1.18
32 to 32.0 gravity	1.20
33 to 33.9 gravity	1.22
34 to 34.9 gravity	1.24
35 to 35.9 gravity	1.26
36 to 36.9 gravity	1.28
37 to 37.9 gravity	1.30
38 to 38.9 gravity	1.32
39 to 39.9 gravity	1.34
40 to 40.9 gravity	1.36
41 to 41.9 gravity	1.38
42 to 42.9 gravity	1.40
43 to 43.9 gravity	1.42
44 to 44.9 gravity	1.44
45 to 45.9 gravity	1.46
46 to 46.9 gravity	1.48
47 to 47.9 gravity	1.50
48 to 48.9 gravity	1.52
49 to 49.9 gravity	1.54
50 to 50.9 gravity	1.56
51 to 51.9 gravity	1.58
52 and above	1.60

Corsicana Heavy, $1.00 per barrel, posted by Magnolia.

*The Texas Company's Postings begin at 28 to 28.9.

SOUTH TEXAS

Mirando 1.00

SOMERSET

Grayburg

	Dec. 21 1927
Below 33 gravity	1.05
33 to 33.9 gravity	1.07
34 to 34.9 gravity	1.09
35 to 35.9 gravity	1.11
36 to 36.9 gravity	1.13
37 to 37.9 gravity	1.15
38 and above	1.17

GULF COAST

	Dec. 21 1927
Grade "A" all companies	1.20
Gulf Coast Light Oil, below 25	1.15
25 to 25.9 gravity	1.17
26 to 26.9 gravity	1.19
27 to 27.9 gravity	1.21
28 to 28.9 gravity	1.23
29 to 29.9 gravity	1.25
30 to 30.9 gravity	1.27
31 to 31.9 gravity	1.29
32 to 32.9 gravity	1.31
33 to 33.9 gravity	1.33
34 to 34.9 gravity	1.35
35 to 35.9 gravity	1.37
36 to 36.9 gravity	1.39
37 to 37.9 gravity	1.41
38 to 38.9 gravity	1.43
39 to 39.9 gravity	1.45
40 and above	1.47

*Humble Oil & Refining Company's postings on Gulf Coast Light stop at 35 to 35.9. Its price on all crudes above 35 to $1.37 per barrel.

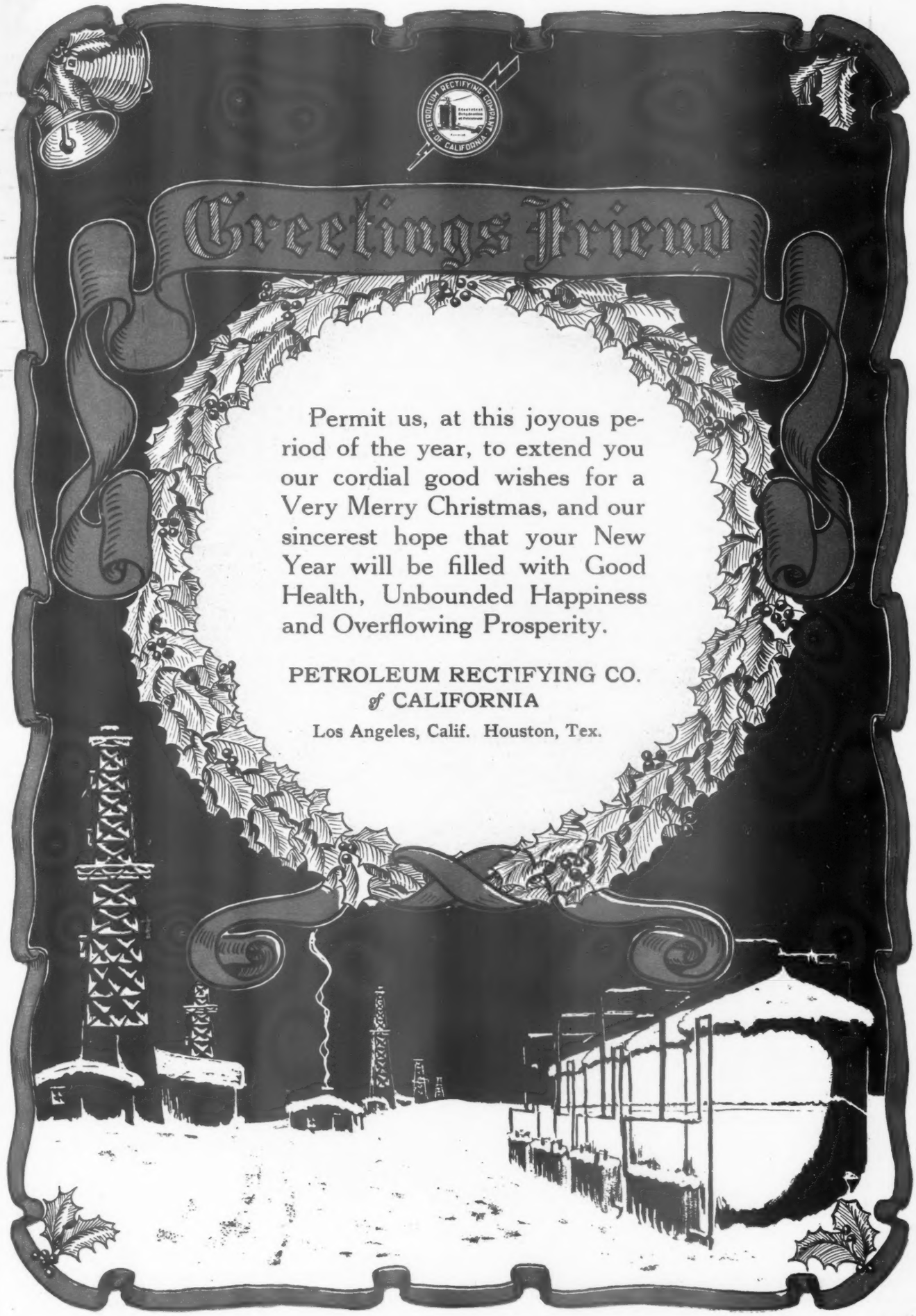
Magnolia Petroleum Company's postings stop at 31 to 31.9.

(Continued on page 60)

CALIFORNIA CRUDE OIL PRICES AT THE WELL

Following are the current prices offered by Standard Oil Company for crude oil at the well: (Price per barrel of 42 gallons in fields indicated.)

Gravity (degrees)	Signal Hill	Seal Beach	Huntington Beach	Inglewood	Olinda-Brea Canon	Athens-Rosecrans Dominguez	Torrance	Richfield	Whittier La Harbra		Coyote Hill	Santa Fe Springs	Newhall McKittrick Kern River	Midway Sunset Elk Hills	Buena Vista Hills	Lost Hills	Coalinga	Wheeler
14-14-9	$ .85	$ .85	$ .85	$ .85	$ .85	$ ..	$. .85	$ .85	$. .85	$ .85	$ .85	$ ..	$ .75	$ .75	$ .75	$ .75	$ .75	$ .75
15-15-9	.85	.85	.85	.85	.85	..	.85	.85	.85	.85	.85	..	.75	.75	.75	.75	.75	.75
16-16-9	.85	.85	.85	.85	.85	..	.85	.85	.85	.85	.85	..	.75	.75	.75	.75	.75	.75
17-17-9	.85	.85	.85	.85	.85	..	.85	.85	.85	.85	.85	..	.75	.75	.75	.75	.75	.75
18-18-9	.85	.85	.85	.85	.85	..	.85	.85	.85	.85	.85	..	.75	.75	.75	.75	.75	.75
19-19-9	.85	.85	.85	.85	.85	..	.85	.85	.85	.85	.85	..	.75	.75	.75	.75	.75	.75
20-20-9	.85	.85	.85	.85	.85	..	.85	.85	.85	.85	.85	..	..	.77	.77	.77	.76	.76
21-21-9	.86	.86	.86	.86	.86	..	.86	.86	.85	.85	.86	.85	..	.79	.79	.79	.77	.77
22-22-9	.87	.87	.87	.87	.87	..	.87	.87	.85	.85	.87	.85	..	.81	.81	.81	.78	.78
23-23-9	.88	.88	.88	.88	.88	..	.88	.88	..	.85	.88	.85	..	.83	.83	.83	.79	.79
24-24-9	.89	.89	.89	.89	.89	..	.89	.89	..	.85	.89	.85	..	.85	.85	.85	.80	.80
25-25-9	.90	.90	.90	.90	.90	.90	.90	.90	..	.86	.90	.86	..	.87	.87	.87	.81	.81
26-26-9	.92	.92	.92	.92	.92	.92	.92	.92	..	.87	.91	.87	..	.89	.89	.89	.83	.82
27-27-9	.94	.94	.94	.94	.94	.94	.94	.94	..	.88	.92	.88	..	.91	.91	.91	.85	.83
28-28-9	.96	.96	.96	.96	.96	.96	.96	.96	..	.89	.93	.89	..	.93	.93	.93	.87	..
29-29-9	.98	.98	.98	..	.98	.98	..	1.00	..	.91	.95	.93	..	.99	.99	.99	.91	..
30-30-9	1.00	1.00	1.00	..	1.00	1.00	..	..	..	..	..	.95	..	1.02	1.02	1.02	.93	..
31-31-9	1.03	1.03	1.03	..	..	1.03	..	..	..	..	..	.97	..	1.05	1.05	1.05	.95	..
32-32-9	1.06	1.06	1.06	..	..	1.06	..	..	..	..	..	.99	..	1.08	1.08	1.08	.97	..
33-33-9	..	..	..	..	..	1.09	..	..	..	..	..	1.01	..	..	..	1.11	.99	..
34-34-9	..	..	..	..	..	1.12	..	..	..	..	..	1.03	..	..	..	..	1.01	..
35-35-9	..	..	..	..	..	1.15	..	..	..	..	..	1.06	..	..	..	..	..	..
36-36-9	..	..	..	..	..	1.18	..	..	..	..	..	1.09	..	..	..	..	..	..
37-37-9	..	..	..	..	..	1.21	..	..	..	..	..	1.12	..	..	..	..	..	..
38-38-9	..	..	..	..	..	1.24	..	..	..	..	..	1.15	..	..	..	..	..	..
39-39-9	..	..	..	..	..	1.27	..	..	..	..	..	..	..	..	..	..	..	..
40-40-9	..	..	..	..	..	1.30	..	..	..	..	..	..	..	..	..	..	..	..
41-41-9	..	..	..	..	..	1.33	..	..	..	..	..	..	..	..	..	..	..	..
42-42-9	..	..	..	..	..	1.36	..											


PETROLEUM RECTIFYING COMPANY OF CALIFORNIA
Greetings Friend
Permit us, at this joyous period of the year, to extend you our cordial good wishes for a Very Merry Christmas, and our sincerest hope that your New Year will be filled with Good Health, Unbounded Happiness and Overflowing Prosperity.
PETROLEUM RECTIFYING CO.
of CALIFORNIA
Los Angeles, Calif. Houston, Tex.

MARKHAM

	Dec. 21 1927
The Texas Company	
All grades	1.00

LULING

All grades	1.00

PANHANDLE

(Humble Oil & Refining Company and Magnolia Petroleum Company, Gulf Pipe Line Company and Kay County Gas Company)*

Hutchinson, Carson and Wheeler counties, all grades	.75

*Gulf and Kay County do not post in Wheeler County.

Gray County
(Humble Oil & Refining Company)

28 to 28.9 gravity	.80
29 to 29.9 gravity	.82
30 to 30.9 gravity	.84
31 to 31.9 gravity	.86
32 to 32.9 gravity	.88
33 to 33.9 gravity	.90
34 to 34.9 gravity	.92
35 to 35.9 gravity	.94
36 to 36.9 gravity	.96
37 to 37.9 gravity	.98
38 to 38.9 gravity	1.00
39 to 39.9 gravity	1.02
40 to 40.9 gravity	1.04
41 to 41.9 gravity	1.06
42 to 42.9 gravity	1.08
43 to 43.9 gravity	1.10
44 and above	1.12

(Humble Oil & Refining Company)

Crane, Upton, Crockett and Pecos counties, all grades	.60

WEST TEXAS

(Humble, Gulf, Magnolia, Kay County Gas Company and Southern Crude Oil Purchasing Company)*

Crane, Crockett, Pecos, Upton and Winkler, Counties	.60

*Kay County Gas Company does not buy in Winkler and Pecos Counties, and Southern does not buy in Pecos or Crockett.

Col-Tex Refining Company

Mitchell County	$ .93

WYOMING-MONTANA
Wyoming

Byron	1.33
Ferris	1.60
Elk Basin	1.33
Grass Creek	1.33
Rock Creek	1.25
Lost Soldier	.95
Lance Creek	1.33
Mule Creek	1.10
Notches	.65
Big Muddy	1.25
Osage	1.33
Hamilton Dome	.85
Pilot Butte	1.75
Torchlight-Greybull	1.33
Lander	.80
Simpson Ridge	.80
Rex Lake	1.10
South Casper Creek-Poison Spider	1.00

Salt Creek
Midwest Refining Company

29 to 29.9 gravity	1.14
30 to 30.9 gravity	1.16
31 to 31.9 gravity	1.18
32 to 32.9 gravity	1.20
33 to 33.9 gravity	1.22
34 to 34.9 gravity	1.24
35 to 35.9 gravity	1.26
36 to 36.9 gravity	1.28
37 and above	1.30

MONTANA

Sunburst	1.35
Cat Creek	1.33
Lake Basin	2.20

NEW MEXICO

Artesia	1.00
Hogback	1.38

Canadian Crude

	Dec. 21 1927
Oil Springs	2.18
Petrolia	2.11

*Bounty on Canadian crude is ¾-cent per gallon, or 26¼ cents per barrel.

LOUISIANA-ARKANSAS

(Standard of Louisiana, Louisiana Oil Refining Company, Gulf Refining Company of Louisiana and The Texas Co.) Homer, Haynesville, Caddo, El Dorado, De Soto and Chrichton.

Below 28 gravity	1.10
28 to 28.9 gravity	1.12
29 to 29.9 gravity	1.14
30 to 30.9 gravity	1.16
31 to 31.9 gravity	1.18
32 to 32.9 gravity	1.20
33 to 33.9 gravity	1.22
34 to 34.9 gravity	1.24
35 to 35.9 gravity	1.26
36 to 36.9 gravity	1.28
37 to 37.9 gravity	1.30
38 to 38.9 gravity	1.32
39 to 39.9 gravity	1.34
40 to 40.9 gravity	1.36
41 to 41.9 gravity	1.38
42 to 42.9 gravity	1.40
43 to 43.9 gravity	1.42
44 to 44.9 gravity	1.44
45 to 45.9 gravity	1.46
46 to 46.9 gravity	1.48
47 to 47.9 gravity	1.50
48 to 48.9 gravity	1.52
49 to 49.9 gravity	1.54

	Dec. 21 1927
50 to 50.9 gravity	1.56
51 to 51.9 gravity	1.58
52 and above	1.60

Atlantic Oil Producing Company posts this same schedule on Homer, Haynesville, and West El Dorado.

Magnolia Petroleum Company has the same posting on Pine Island, Haynesville, Eldorado and Bull Bayou.

STEPHENS
(All Companies)

Below 28	1.00
28 to 28.9 gravity	1.04
29 to 29.9 gravity	1.04
30 to 30.9 gravity	1.06
31 to 31.9 gravity	1.08
32 and above	1.10

SMACKOVER
(All Companies)

Below 24 gravity	$ .85
24 and above	1.00

Bellevue	1.25
Jennings	1.15
Vinton	1.30
Edgerly	1.30
Starks Dome	1.30
Urania	.75
Cotton Valley	.85
Calion	.85

IMPORTS OF PETROLEUM AT PRINCIPAL UNITED STATES PORTS

American Petroleum Institute Figures. Barrels of 42 gallons)

	December 10	December 3
AT ATLANTIC COAST PORTS—		
Baltimore	294,000	409,000
Boston	.....	.....
New York	369,000	609,000
Philadelphia	107,000	216,000
Others	213,000	156,000
Total	983,000	1,390,000
Daily average	140,428	190,571
AT GULF COAST PORTS—		
Galveson District	40,000	.....
New Orleans and Baton Rouge	125,000	140,000
Port Arthur and Sabine District	.....	.....
Tampa	23,000	.....
Total	188,000	140,000
Daily average	26,857	20,000
AT ALL UNITED STATES PORTS—		
Total	1,171,000	1,530,000
Daily average	167,285	218,571
Daily average four weeks ended	205,714	217,571
Daily average four weeks ended	205,714	217,571

RECEIPTS OF CALIFORNIA OIL AT ATLANTIC AND GULF COAST PORTS

American Petroleum Institute Figures. Barrels of 42 gallons)

	December 10	December 3
AT ATLANTIC COAST PORTS—		
Baltimore	90,000	.....
Boston	94,000	.....
New York	464,000	459,000
Philadelphia	153,000	74,000
Others	65,000	.....
Total	866,000	533,000
Daily average	123,714	76,143
AT GULF COAST PORTS—		
Daily average	.....	.....
TOTAL ATLANTIC AND GULF COAST PORTS—	866,000	533,000
Daily average	123,714	76,143
Daily average four weeks ended	64,357	57,357
DISTRIBUTION OF TOTAL CALIFORNIA RECEIPTS IS AS FOLLOWS:		
Crude	375,000	216,000
Gasoline	165,000	224,000
Gas oil	.....	93,000
Fuel oil	326,000	.....
Total	866,000	533,000

COMPLETIONS FOR PAST WEEK IN U.S. FIELDS

OKLAHOMA

Company, Well and Location	Initial Production Bbls.	Depth
CARTER COUNTY—		
Humble, Spears 2, nw c se nw, 29-1s-3w	120	5155
Schermerhorn et al, Calvery 4, nec sw, 2-2s-3w	*	4198
Magnolia, Akers 1, nec se ne, 30-1s-3w	*	3820
McCrory 2, sec sw ne, 19-1s-3w	*	2800
CREEK COUNTY—		
Indep. O. & G. Co., Wolfe 3, sec nw ne, 18-14-10e	225	3441
The Texas Co., Sneed 2, c sw se, 7-14-9e	¶3M	993
Kennedy & Horner et al, Tiger 3, csl nw nw, 25-18-11e	25	1947
Strip 2, sec sw sw, 24-18-11e	25	1832
Indep. O. & G. Co., Wolfe 7, sec nw ne, 18-14-10e	¶7M	495
Skelly, Bruner 1, swc se sw, 10-15-8e	¶7M	3182
Jackson & Wise, Thomas 2, sec sw nw, 13-17-10e	*	2550
O. M. Irelan, Thomas 1, swc se nw, 13-17-10e	*	2540
A. E. Purser et al, Aubrey 1, nec se nw se, 23-18-11e	*	1950
Madden & Madden, Barnett 1, swc nw se, 31-18-10e	*	3060
GARVIN COUNTY—		
Magnolia, King 1, sec ne sw, 31-1-3w	*	3268
GRADY COUNTY—		
Marland & Joe Ray, Woods 3, nec se ne, 17-3-5w	135	2291
Watchorn O. & G. Co., Pettit 5, sec 11-4-8w	¶28M	2213
Carter Oil Co., McCaughtry 4, swc nw nw, 26-5-8w	¶28M	2450
Magnolia, Payne 1, nwc sw nw, 2-1-5w	*	4380
Wham 1, sec ne ne, 34-3-5w	*	3801
GRANT COUNTY—		
Marland & Waggoner, Frantz 1, nec sw, 35-28-3w	¶8M	4108
Joe Lathrop et al, Henn 1, sec ne, 35-28-3w	¶7M	4100
JEFFERSON COUNTY—		
Amerada Pet. Corp. & W. H. Grant, Ryan 1, nec se nw, 23-6s-6w	*	2501
KAY COUNTY—		
Harris & Haun, Frost 5, cel w½ nw, 22-29-1w	¶6M	1688
Marland Oil Co., Dickason 1-A, nec se, 17-29-1e	¶1M	767
Ivan Otstot et al, School Land 1 No. 76, nwc ne sw, 36-28-1w	¶3M	675
Fred Morgan, Elder 1, nwc sw, 29-28-1e	¶1M	1067
MUSKOGEE COUNTY—		
D. T. L. Oil Co., Mackey 1, nwc ne sw, 9-15-18e	¶4M	804
Becker & Schaffer, Kelly 1, swc se ne, 5-14-19e	*	512
OKMULGEE COUNTY—		
Indep. O. & G. Co., Wilson 5, sec nw se, 7-12-12e	¶1M	1990
J. E. Wallace, Colbert 4, nec sw se, 14-14-14e	10	1018
W. B. Pine, Skidmore 3, c se nw, 10-15-14e	5	993
Kessler & Logan, Milliken 4, swc nw nw, 9-12-12e	*	3264
OSAGE COUNTY—		
Osage Gas Prod. Co., 382, swc se ne, 6-27-11e	¶1M	1875
Peters Pet. Co., 3, cnl se, 22-27-11	¶1M	1920
Geo. Parker, 4, swc nw nw, 11-26-6e	811	2845
I. T. I. O. Co., 385, nec nw, 29-23-8e	¶5M	1355
Pueblo Pet. Co., 4, cwl sw se, 14-21-8e	25	2290
A. D. McDonnell, 1, sec sw, 6-21-9e	12	1265
Osage Gas Prod Co., 383, swc nw se, 35-28-11	*	1963
Phillips Pet. Co., 2, sec, 17-27-6e	*	3032
5, nec se se, 17-27-6e	*	1472
I. T. I. O. Co., 376, cwl e½ ne, 21-27-11e	*	1940

SUMMARIZED REVIEW OF FIELD RESULTS

State—	Completions This Week	Completions Last Week	Producers This Week	Producers Last Week	Gas Wells This Week	Gas Wells Last Week	Failures This Week	Failures Last Week	Initial Production This Week	Initial Production Last Week
Arkansas	3	4	2	1	..	1	1	2	130	10
California	14	17	13	15	..	..	1	2	12,355	4,405
Illinois	5	5	2	4	..	..	3	1	25	90
Indiana	3	6	1	3	..	..	2	3	14	140
Kansas	25	13	12	3	1	..	12	10	1,940	305
Kentucky	17	30	7	20	1	1	9	9	546	600
Louisiana	16	19	6	8	4	3	6	8	843	1,375
Michigan	..	1	..	..	..	..	..	1	..	...
Montana	1	..	1	..	..	..	..	..	8	...
New York	21	..	21	..	..	..	..	..	65	...
Ohio	22	20	5	14	11	1	6	5	158	181
Oklahoma	81	83	31	44	23	11	27	28	10,715	17,431
Pennsylvania	69	15	55	2	12	12	2	1	309	42
Texas	90	92	47	51	8	5	35	36	76,114	81,917
West Virginia	26	35	6	12	14	21	6	2	27	235
Wyoming	1	7	1	7	..	..	..	..	100	234
Totals	394	347	210	184	74	55	110	108	103,349	106,965
Increase this week	47	..	26	..	19	..	2	..	...	...
Decrease this week	..	..	..	..	..	..	..	..	3,616	...

NOTE—Following is the explanation of abbreviations, signs, etc., used in completion and wildcat reports: *—dry hole, abandoned well; ‡—salt water; †—junked and abandoned; ¶—million cubic feet of gas; abn—abandoned; bbls—barrels; b. s.—basic sediment; cas—casing; co—cleaning out; dk—derrick; dr—drilling; fsh—fishing; ft—feet; in—inches; lcn—location; m—milling; n, s, e, w—north, south, east, west; r—reaming; sd—shut down; sdtr—sidetracking; sp—spudding; sr—straight reaming; std—standardizing; sw—salt water; td—total depth; ur—underreaming; wo—workover; wosr—waiting on standard rig.

Company, Well and Location	Initial Production Bbls.	Depth
PAWNEE COUNTY—		
Privett Drlg. Co., Garner 2, swc ne se, 3-20-6e	¶10M	3060
Dixie Oil Co., Barber 1, nwc sw se, 8-21-6e	*	3212
PONTOTOC COUNTY—		
American O. & R. Co., Wray 4, nwc ne nw, 34-5-6e	¶6M	1890
La. Oil Ref. Co., McElroy 5, sec nw se, 17-5-8e	200	2507
W. R. Ramsey, Milner 3, swc nw sw, 17-5-8e	¶19M	2368
Parker 2, nwc se, 17-5-8e	50	2420
Patterson Harjo 1, nwc sw se, 20-5-8e	270	2568
POTTAMATOMIE COUNTY—		
Darby Pet. Co., Shaw 1, nwc ne ne, 22-7-4e	¶35M	3920
SEMINOLE COUNTY—		
Empire O. & R. Co., Lacey 3, swc, 14-8-6e	*	4537
Indep. & Marland, Coker 4, sec ne, 21-8-6e	*	4453
Pure, Hull 3, swc, 35-8-6e	*	....
Barnsdall, Davis 2, nec se nw, 2-7-6e	*	....
Phillips, Alexander 1, nec nw, 2-7-6e	*	4428
Alexander 2, sec ne nw, 2-7-6e	*	....
Tidal Oil Co., Fixico 8, swc ne nw, 26-9n-6e	*	4250
Pure, Doyle 5, sec nw nw, 30-1-4e	78	3886
Magnolia, Rhoades 2, swc nw se, 12-8-6e	1050	4237
Carter, Harjoche 3, nwc sw nw, 14-8-6e	55	4110
Minnehoma Oil Co., Bowlegs 4, swc, 15-8-6e	90	4498
Gypsy, Pattey 2, sec ne ne, 35-8-6e	372	4508
Monger 1, nwc ne ne, 1-7-6e	120	4274
I. T. I. O. Co., Nitey 5, swc ne ne, 2-7-6e	188	4116
Twin State Oil Co., Hearn 3, nec se, 2-9-5e	3630	4361
Texas Oil Co., Brown 8, sec sw nw, 10-9-5e	150	4289
Gypsy, Carter 11, nec nw nw, 11-9-5e	2595	4488
Magnolia, Seay 8, nec sw sw, 12-9-5e	400	4301
Sullivan 4, nec nw nw, 12-9-5e	125	4270
Mid Kansas Oil Co., Anderson 2, nwc ne ne, 14-9-5e	130	4328
Anderson 4, nec se ne, 14-9-5e	45	4311
Carter, Johnson 1, nwc se ne, 3-9-6e	90	4278
Texas Oil Co., Fleet 1, nec nw sw, 4-9-6e	100	4135
Carter, Casey 10, nec se se ne, 31-8-8e	385	4005
STEPHENS COUNTY—		
Lone Star Gas Co., Wilson 8, cel nw sw, 9-3-5w, owd	¶13M	1283
Smith Law Pet. Co., Brymer 2, nwc se ne, 31-1n-8w	¶4M	1910
Magnolia, 1-a Chrisholm, swc nw sw, 18-1-4w	*	3823
ROGERS COUNTY—		
L. E. Keys, Childers 1, sec 26-19-17e.	*	815
TULSA COUNTY—		
D. W. Franchot, Bruner 8, nec sw ne sw, 22-17-13e	10	1674
WAGONER COUNTY—		
C. R. Cane, Cane 1, sec nw sw, 36-17-17e	¶3M	844

KANSAS

Company, Well and Location	Initial Production Bbls.	Depth
BUTLER COUNTY—		
Mathews Ralston et al, Doughty 1, sec ne se, 6-27-6e	40	3114
Sheldon et al, Allen 1, nwc sw sw, 21-27-6e	*	....
Lucett & Sheets, Jones 1, owd swc ne, 30-28-7e	*	2839
CHASE COUNTY—		
Kewanee O. & G. Co., Lipps 2, c nw nw, 36-18-6e	¶14M	1192
Kirk et al, Crosby 1, swc nw ne, 23-22-9e	*	....
COWLEY COUNTY—		
Brinn et al, Hughes 1, nw c sw, 20-31-4e	*	3352
ELK COUNTY—		
Jacquelin Oil Co., Hawkins 1, nw c se, 34-29-12e	10	842
Phoenix Oil Co., Hawks 1, nec 22-30-10e	20	2014
Griffeth, Bell et al, Cunningham 1, nwc, 35-31-10e	5	2295
Elmwood & Phoenix, Webster 1, sec, 6-30-12e	*	1860
Union Gas Corp., Glasscock 1, c sw ne, 11-31-10e	*	1469
Roth & Faurot, Elk Bank 1, nw c sw, 3-31-11e	*	2338
GREENWOOD COUNTY—		
Darby Pet. Co., Fankhouser 5, swc 24-22-12e	250	1656
Schwab 2, nec sw nw nw, 30-22-13e	280	1737
Schwab 3, nwc se nw nw, 30-22-12e	300	1737
Fetherline et al, Jenkins 1, nec nw nw, 30-22-13e	10	1722
Murphy et al, Green 5, nec nw nw, 14-23-9e	125	2332
Valley Osage Oil Co., Roglin 1, sw c se, 10-25-13e	100	1448
Barkins et al, Cox 1, nec sw se, 15-25-11e	*	....
Foster Oil Co., Taylor 1, nec nw, 7-27-12e	*	1862

Company, Well and Location	Initial Production Bbls.	Depth
MARION COUNTY—		
Lample Althouse et al, Regier 1, nw c sw nw, 18-21-4e	*	....
POTTAWATOMIE COUNTY—		
Crawford et al, Stewart 1, cel se se, 17-9-12e	*	....
Greishofer 1, sec sw sw, 31-9-12e..	*	....
SUMNER COUNTY—		
Roxana, Wiles 5, nw c ne, 25-31-2e..	300	1904
Wenrich 3, nec se ne nw, 26-31-2e.	500	1893

EASTERN STATES

NEW YORK

ALLEGANY COUNTY—		
McDivitt, McDivitt & Co. 6	5	....
McDivitt & Co., McDivitt 7	5	....
First Trust Co., South Penn 44	4	....
C. O. & W. O. Taylor, Reed 1	5	....
M. Shier, Baker 1	3	....
Luke & Staley, Kinley 2	3	....
W. J. Hughes & Co., Hughes 3	3	....
J. K. Cochran & Co., McDermott 15	3	....
McDermott 16	3	....
E. G. Williams & Co., Williams 4	3	....
Pure Oil Co., Kinley 1	2	....
LeSeur Oil Corp., LeSeur 5	3	....
LeSeur 6	3	....
Albert Oil Co., Albert 10	4	....
Empire Ltd., Empire 24	4	....
Forest Oil Corp., July 301	2	....
July 314	2	....
July 321	2	....
L. E. Jordon, Jordon & Boyd 6	2	....
Jordon & Boyd 7	2	....
Kinley Producers Co., Kinley 2	2	....

WEST VIRGINIA

CALHOUN COUNTY—		
Martin Crowley, Cooper Bros. 1	6	....
William Sturm 2	6	....
B. J. Crowley, Crowley 2	¶½	....
F. F. McIntosh, Slider 1	¶¼	....
RITCHIE COUNTY—		
South Penn Oil Co., Burke 1	*	....
Deem Bros. & Co., Smith Bros. 3	¶¼	....
J. F. Deem & Co., Tingler 3	4	....
Park Bowser, Grim 1	¶2	....
WOOD COUNTY—		
L. F. Bickel & Co., Goetz 1	*	....
South Penn Oil Co., M. Day 2	3	....
Davis Oil Co., McPeak 1	*	....
GILMER COUNTY—		
Satterfield & Co., Frank Davis 1..	¶½	....
Hope Nat. Gas Co., Parson-Bennett 2	¶1¼	....
C. N. Snodgrass 1	*	....
DODDRIDGE COUNTY—		
J. B. Pentz, Underwood 2	¶1	....
Godfrey L. Cabot, Mayfield 1	¶½	....
ROANE COUNTY—		
Godfrey L. Cabot, Hildreth 1	¶½	....
National O. & G. Co., Harner 1...	*	....
WAYNE COUNTY—		
Chartiers Oil Co., Strebler 1	5	....
WETZEL COUNTY—		
Carnegie Nat. Gas Co., Miller 1	3	....
MONONGALIA COUNTY—		
Manufacturers Light & Heat Co., Tennant 1	¶2	....
PUTNAM COUNTY—		
Hurricane O. & G. Co., Mitchell 1..	¶2	....
LEWIS COUNTY—		
Standard Gas Co., Rinehart 1	¶1	....
LINCOLN COUNTY—		
Mid-River Gas Co., Atkins 1	¶½	....
BRAXTON COUNTY—		
Pittsburg & W. Va. Gas Co., Bennett & Co. 1	¶1½	....
WIRT COUNTY—		
W. C. Patterson, Donohoe 31	*	....

INDIANA

DAVIESS COUNTY—		
Hartman, Sargent & Co., Peek 2	14	1346
PIKE COUNTY—		
Ohio Oil Co., Martin 2	*	....
KNOX COUNTY—		
Murphy Oil Co., Cooper 2	*	1280

ILLINOIS

CLARK COUNTY—		
W. C. McBride, Inc., Connelly 1	20	530
McFarland 1	*	1500
WABASH COUNTY—		
J. S. Young & Co., Price 2	*	1690
Smith & Co., Andrews 1	*	1620
LAWRENCE COUNTY—		
Ohio Oil Co., Lewis 56	5	1735

KENTUCKY

Company, Well and Location	Initial Production Bbls.	Depth
OHIO COUNTY—		
Creek Drlg. Co., Early 13	100	735
Bartlett Hrs 2	200	790
Wood Oil Co., Duke 1	100	....
Ralph 2	100	....
Jordan & Co., Barr 1	*	....
White Plains O. & G. Co., Maiden 1	*	800
Fred Estes & Co., Renfrew 3	35	....
Guerney Dev. Co., Bartlett 2	10	627
D. T. Belling & Co., Dickens 3	*	....
Miller & Damron, Smith 1	*	500
Loman & Daly, Baker Bros. 1	*	573
Russell & Co., Fuqua 1	*	....
WARREN COUNTY—		
Baker-Jones Oil Co., Gillespie 8	1	1060
CLAY COUNTY—		
Petroleum Exploration Co., Crawford Hrs 1	¶1½	....
DAVIESS COUNTY—		
McMahon & Co., Wimp 1	*	....
Overstreet & Co., Shores-Taylor 1..	*	....
Rowe Oil Co., Poor Farm 2	*	....

SOUTHEASTERN OHIO

MORGAN COUNTY—		
Bowman O. & G. Co., Hoffman 3...	¶¼	....
Charles Fox & Co., Glass 3	¶½	....
WASHINGTON COUNTY—		
Peoples Banking & Trust Co., Bergen 20	*	....

CENTRAL OHIO

CUYAHOGA COUNTY—		
Dillon & McFredericks, Gabel 1...	*	....
Goff Bros., Sprague 1	¶½	....
John Arthur, Hazlett 1	10	3150
Arthur & Simpson, Geiss 1	¶1¼	....
GUERNSEY COUNTY—		
Pure Oil Co., Rigley 1	65	3165
Leonard O. & G. Co., Joyce 6	70	3742
George Jewell & Co., Lanning 1	10	....
HOCKING COUNTY—		
Wallsmith & Kinard, McGloughlin 1	¶¼	....
Limelight O. & G. Co., Lane 2	¶1¼	....
Riggs O. G. Co., Riggs 1	*	....
Preston Oil Co., Lockhard 3	*	....
LICKING COUNTY—		
Arkansas Fuel Oil Co., Howell 1	3	....
Goshen Oil Co., Van Winkle 7	*	....
SUMMITT COUNTY—		
East Ohio Gas Co., Wolfe 1	¶3½	....
Miller 1	¶4½	....
ASHLAND COUNTY—		
The Kemrow Co., Ringler 1	¶2¾	....
HOLMES COUNTY—		
The Ohio Oil Co., Miller 1	¶1	....
LAWRENCE COUNTY—		
Ohio Fuel Supply Co., Elcesson 1..	¶¼	....
COSHOCTON COUNTY—		
Cassingham & Bell Bros., Cassingham 21	*	....

PENNSYLVANIA

BRADFORD FIELD—		
South Penn Oil Co., Bingham 439, tr 104	80	....
Bingham 420, tr 2	40	....
Bingham 453, tr 2	7	....
Bingham 395, tr 1	7	....
Bingham 400, tr 89	4	....
Bingham 398, tr 2	4	....
Redfield 1,	10	....
Cotton 64	3	....
Cotton 65	2	....
Smith 151	2	....
Dent 116	2	....
Midland Keating 47	2	....
Midland Keating 46	2	....
Culbertson 67	3	....
Fee 49	2	....
Fee 50	2	....
Forest Oil Corp., Tyler 79	2	....
Tyler 208	2	....
Niles 1-J2	2	....
Niles 57	2	....
Sims 1-H42	2	....
N. V. V. Franchot, Rounds 10	10	....
Rounds 11	7	....
J. W. Kaufman, Rounds 12	12	....
First Nat. Bank of Olean, Keating 1	7	....
A. H. Wiborg, Meldrum 7	4	....
Davis Oil Co., Kuhn 4	4	....
Skaggs Bros., Skaggs 2	4	....
Hope Oil Co., Richardson 8	4	....
A. Schorman, Schorman 2	4	....
T. B. Wilson, Bingham 9	3	....
Petroleum Reclamation Co., Pratt Hollow 3-D1	2	....
Hazelwood Oil Co., Block 22 tr 44..	2	....
T. P. Thompson, Jr., Thompson 20	3	....
W. J. Healey, Healey 2	3	....
L. A. Mazza & Co., Burns 1	3	....
A. Storer, Sanderson 1	3	....
T. B. Wilson, Borden 1	3	....
Gallup, Bovaird & Co., Rew 21	3	....
L. H. Smith & Son, Garlock 66	3	....
BUTLER COUNTY—		
McCormick & Co., Jordan 3	¶1¼	....
Seybert Bros., Seybert 1	¶1½	....
Freeman & Beals, Jack 4	*	....
Sloan, Richard & Co., Lewis 1	*	....
Waltman & Co., Gillespie 1	2	....
Kroneberg & Co., Keck Heirs 2	2	....
ALLEGHENY COUNTY—		
Guysen & Cook, Guysen & Cook 1..	¶½	....
GREENE COUNTY—		
John Morehead & Co., Springfield 1	¶2	....
Sutton, Mong & Co., Hattie Sprouls 1	¶2	....
Peoples Nat. Gas Co., Taylor 1	¶2	....
CENTER-MIDDLE FIELD—		
F. E. Keller, Foster 10	3	....
J. G. Cochran, Lot 7, tr 55	10	....
Titusville Trust Co., Jennings 33	4	....
CLARION COUNTY—		
J. C. Edinger, Kenemuth Hrs 1	¶2	....
Bashline & Co., Nick 1	¶1	....
Ashbaugh & Co., Dittman 1	¶1	....
Beary & Co., Moran 4	¶1	....
VENANGO COUNTY—		
Plum O. & G. Co., Matthews 3	3	....
Midland Oil Corp., McNellie 32	3	....
C. C. Grimm, Sacks 5	2	....
Bell & Nesbit, Wise 35	2	....
L. T. Perrine, Perrine 17	2	....
A. Knapp, Knapp 4	2	....
Riddle & Co., Eakin 1	¶1	....
Eakin 2	¶1	....
Eakin 3	¶1	....
Pioneer Oil Co., Columbia 9	2	....
P. A. Wilbert & Co., Wilbert 23	2	....
W. W. Wise, Cooper 9	2	....

CALIFORNIA

ATHENS-ROSECRANS—		
Union Oil Co., Chandler 2	130	4925
HUNTINGTON BEACH—		
Standard, Huntington 3, wo	120	3279
Ohio Oil Co., Slayter 1	110	4350
Calif. Pet. Corp., Buck 1, wo	160	3240
KERN FRONT—		
Standard, No. 12, 27-28-27	100	2440
St. Helens Pet. Co., No. 2, 26-28-27.	300	2275
LONG BEACH—		
Graham-Loftus Oil Co., Butler 1	2300	6000
Richfield Oil Co., Hoffman 1	4400	6012
Shell Co., Patton-Wilson 3	625	5200
Union Oil Co., L. B. C. 13	560	5608
SEAL BEACH—		
Standard, San Gabriel 8, wo	1000	4865
VENTURA—		
Shell Co., Taylor 17	700	5825
Associated, Hartman 10	1850	6665

LOUISIANA

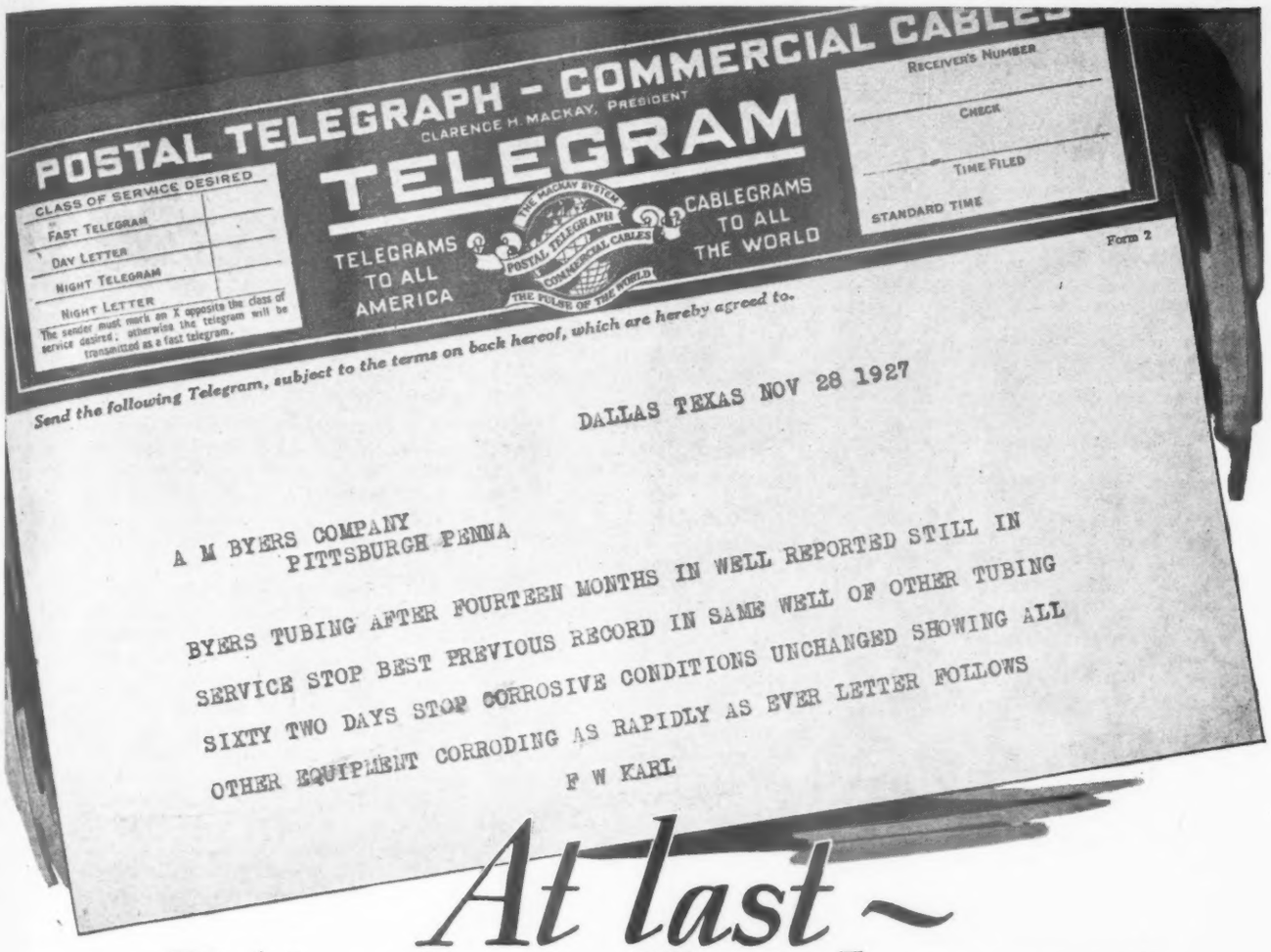
BOSSIER PARISH—		
J. C. McCullough Tr. Hodges 4, 35-16-12	40	1558
CADDO PARISH—		
Woodley Pet. Co., Knight B-4, 2-15-12	¶1½	2463
DE SOTO PARISH—		
Magnolia, Logan 1, 17-10-12	13	3265
LA SALLE PARISH—		
G. W. Zoder, Urania 6, 7-10-2e	50	1516
OUACHITA PARISH—		
Jordan Dr. Co., Miller 1, 18-18-5e...	¶5	2242
RICHLAND PARISH—		
Moody & Seagraves, McCoy 2, 30-16-6e	¶75	2406
SABINE PARISH—		
Arkansas Fuel Oil Co., Logan 11, 33-10-12	175	3314
WEBSTER PARISH—		
Magnolia, Haynesville Merc. Co. 1, 1-22-10	¶8	2614

SOUTH LOUISIANA

EDGERLY—		
Drysdale (Savoy) Oil Co., Hill 2	100	3125
EVANGELINE—		
Cline, Smith & Cline, Conklin 6	*	2150

ARKANSAS

NEVADA COUNTY—		
J. J. O'Brien, Moss A-14, 1-14-21	50	1160
UNION COUNTY—		
W. R. Keever, Ezell 4, 12-17-15	80	2159


POSTAL TELEGRAPH - COMMERCIAL CABLES
CLARENCE H. MACKAY, PRESIDENT
TELEGRAM
CLASS OF SERVICE DESIRED
FAST TELEGRAM
DAY LETTER
NIGHT TELEGRAM
NIGHT LETTER
TELEGRAMS TO ALL AMERICA
CABLEGRAMS TO ALL THE WORLD
RECEIVER'S NUMBER
CHECK
TIME FILED
STANDARD TIME
Form 2
Send the following Telegram, subject to the terms on back hereof, which are hereby agreed to.
DALLAS TEXAS NOV 28 1927
A M BYERS COMPANY
PITTSBURGH PENNA
BYERS TUBING AFTER FOURTEEN MONTHS IN WELL REPORTED STILL IN
SERVICE STOP BEST PREVIOUS RECORD IN SAME WELL OF OTHER TUBING
SIXTY TWO DAYS STOP CORROSIVE CONDITIONS UNCHANGED SHOWING ALL
OTHER EQUIPMENT CORRODING AS RAPIDLY AS EVER LETTER FOLLOWS
F W KARL

At last ~
Tubing Service Vastly Improved

The record referred to above is only one out of a great many showing the remarkable rust-resisting properties of Byers galvanized tubing.

At first blush, your thought will be that any galvanized tubing will give equally good service, regardless of what the best metal may be. Nothing could be further from the truth, as has been repeatedly shown in corrosion tests. The reasons are simple:

The surface of Byers Pipe is made very rough in the pickling process, soaking up zinc like a sponge, and holding it in a *vise-like grip*. This is most important, for zinc in itself is a brittle metal which with handling and wear tends to flake or peel off when applied on steel pipe.

MAKE THIS TEST!

Crush a piece of Byers galvanized pipe flat with a hammer, also a piece of steel pipe, and note how the galvanizing sticks to the former and flakes off the latter! In this difference lies the secret of the much greater durability of Byers galvanized tubing, compared with any other pipe not made of genuine wrought iron.

CAUTION!

Note: Do not confuse Byers with pipe made from so-called "iron," refined in open hearth furnaces. The latter contains no slag (which gives Byers its rough surface) and is, in fact, only good open hearth steel, of low carbon content, sold under various fancy names.

Write for further information.

A. M. BYERS COMPANY
Established 1864 Pittsburgh, Pa.

Distributors
Norvell-Wilder Hardware Co.
Jarecki Mfg. Co. Oil Well Supply Co.

BYERS GALVANIZED Tubing
GENUINE WROUGHT IRON

Say you saw it in The OIL WEEKLY

TEXAS

TEXAS GULF COAST

Company, Well and Location	Initial Production Bbls.	Depth
SPINDLE TOP—		
Gulf, Jack & Duff 6	1000	4600
J. O. Davis, Gladys 2	*	6050
BARBERS HILL—		
Humphreys Corp., Kirby B-6	*	2400
PIERCE JUNCTION—		
Rio Bravo Oil Co., P. S. A-1	1900	4382
Joe Bashara, Higgins 2	85	3560
BLUE RIDGE—		
Gordon, Folwell, Dickson & Sharp, Blakely 1	880	2800
Cunningham Prod. Co., Blakely 1	120	2840
Blakely 3	*	3210
HULL—		
Republic Prod. Co., Dolbear 49	200	3025
Gulf, Phoenix Dev. Co. 43	2100	3100
ORANGE—		
Gulf, Hager & Moore 1	50	3600
Lee Hager Fee 2	570	4150

EAST TEXAS

HARRISON COUNTY—		
Tylong O. & G. Co., Vaughan 2, W. R. Anderson sur.	¶5	1899
PANOLA COUNTY—		
Magnolia, Jernigan 2, Jane Thorpe sur	¶3	1010

NORTH TEXAS

ARCHER COUNTY—		
Barnsdall Oil Co., Wilson 1	*	1716
F. J. Goodwin et al, Coleman 1	*	1600
Jeffer et al, Andrews ¾1-C	*	940
Shappell Oil Co., Wilson 14-B	10	894
Staley-Wynne et al, Seay 1	*	1554
The Texas Co., Seay 1	*	1555
Wilson 1-D	*	1630
Weldon & Lowry et al, Cuba 1	*	1495
CLAY COUNTY—		
L. C. Hivick et al, Meyers 1	*	3500
Lone Star Gas Co., Miller 16	¶½	1630
COOKE COUNTY—		
N. H. Martin et al, Bindle 3	20	1305
McElreath-Suggett & Sinclair, Fleitman 1	8	1706
Oil Operators Trust, Kleiss 9	25	1632
ELECTRA—		
The Texas Co., Waggoner 333	*	2222
HASKELL COUNTY—		
Edmiston & Critton, Reynolds 1	*	2503
JACK COUNTY—		
Shaw-Rathke et al, Cullers 4	75	2013
Leslie Spoonts et al, Martin 1	*	555
K-M-A AND IOWA PARK—		
Henry Hobbs et al, Watkins 2	25	1525
MONTAGUE COUNTY—		
Oil Operators Trust, Hudspeth 1	*	2136
Pure Oil Co., Jones 4	15	865
YOUNG COUNTY—		
Atkins & Sandifer, Donnell 2	*	2295
Pardee et al, Donnell 1	60	3372
Paull Oil Co., Morrison 4	75	2231

CENTRAL WEST TEXAS

BROWN COUNTY—		
Adamson & Bierman, Miller 2	¶4	1150
Dozier et al, Evans 1	*	1420
Elam et al, Brownwood 1	*	1600
Russell et al, Turner 1	*	470
Selby O&G Co. Ellis 23	650	1350
Stock & Love, Graham 1	*	2055
Van Bibber & C. F. Lehman, Evans 4	10	693
CALLAHAN COUNTY—		
Empire G. & F. Co., Snyder 1	30	929
Forest Oil Corp., McDermitt 1	*	1710
Mook-Texas Oil Co., Baum 2	40	1743
COLEMAN COUNTY—		
Cadenhead & Andrews, Johnson 1	†	910
Roth & Faurot, Sealy-Smith 2	¶4	2918
COMANCHE COUNTY—		
Humphreys Bros., et al, Barnes 1	*	3361
EASTLAND COUNTY—		
Chestnut-Smith Corp., Griggs 1	40	3105
Magnolia Pet. Co., Pettit 1, (dd)	*	1833
Milham Corp., Barnett 1	*	2865
STEPHENS COUNTY—		
Barnhart & Conway Bros., Gardenshire 1	*	2075
PALO PINTO COUNTY—		
French et al, Taylor 1	*	1485

TEXAS PANHANDLE

ARMSTRONG COUNTY—		
Meadows et al, Harreal 1	*	4925
HUTCHINSON COUNTY—		
First Nat'l Oil Co. & Lane & Cockrell 1-B	1350	2981

Small Quantity of High Gravity Oil With Gas Flow From Australian Well

Australia has given promise of producing oil in commercial quantities, through a test drilled 250 miles west of Brisbane, Queensland, according to a letter from Harrie C. Dodd of the South Australian Oil Wells Company, the letter having been written at Mount Gambier on October 24, 1927.

When the test was down 3708 feet, strong gas pressure was encountered, and subsequently the well began producing a very light oil, some of which has been used in automobiles with success.

Mr. Dodd's letter was as follows:

"It may interest your readers to know that crude oil has, at last, been produced in our island continent. The find is at Roma, a country town on the Doarling Downs, about 250 miles west of Brisbane, Queensland.

"When the Lander Oilfields Company went into the hands of a receiver, after their ill success at Orallo, 35 miles to the north of Roma, their directors formed the Roma Oil Corporation and rented the rotary plant of the former company.

"A hole was drilled with rotary tools to 3708 feet, and strong gas was struck. The overlying artesian beds were shut off at 3655 feet with cement and eight-inch casing. When the hole was bailed to 1600 feet, it came in as a gasser of 20,000,000 feet per day, with a petrol content of a little over one pint per 1000 feet.

"This is similar to the showing of two other bores drilled in the vicinity, both of which were lost owing to fishing jobs.

"The Roma Oil Corporation was subsidized by the federal government to the extent of £10,000, and geological advice was freely given by the State Oil Board. These two authorities will not now permit the company to 'blow-off' the gas from the well, either through an absorption plant or into the air. The pressure is to be held for future gas lifts.

"Free oil is now developing at the bore head, and the superintendent, Mr. Evans, considers that the well will clean itself and come in as a gusher, even if a small one. Already over 500 gallons of very light oil have been collected from the control head, and some of this oil has been used as fuel in local automobiles with success. It consists mostly of kerosene and lighter fractions, and is claimed to resemble a similar oil found in Alberta, Canada. The oil and gas have come up through 2100 feet of drilling mud, so it is quite possible that the well will flow oil when the fluid is removed.

"The well is under control, and shows a pressure of about 475 pounds at the casing head gauge. Some half million feet are used each day for fuel and flares, and it is likely that the town gasometers will be charged from the well.

"Another hole is to be started shortly by the Roma Company. The land has been pegged out for a radius of over 15 miles. Petroleum, in Queensland, is owned by the State. The mining laws are very stringent, but fair, and every encouragement is given to prospectors for oil and other minerals.

"The oil is found in Marine beds of Jurassic age and occurs in sandstone, underlying shales. Full details can be obtained from the publications of the Queensland Mines Department.

"A double dome is known to exist at the Hospital Hill, Roma, with a saddle between the bulges. The structure was worked out by the assistant government geologist, Mr. Ball, who had pits dug in order to study the strata below the surface cover.

"Beds of the same age extend over, or under, thousands of square miles of the State, and indications of oil have been found in many artesian bores. The Springleigh bore, 7000 feet deep, and the Longreach town bore both showed heavy oil in the hot water flowing from them.

"Other States are also seeking for oil, but only in the southeast of South Australia have any favorable indications been obtained. There, along the border of that State and Victoria, a geological survey by the Victoria Mines Department is now under way. One company is drilling with a combination plant about six miles from the mouth of the Glenelg River."

Company, Well and Location	Initial Production Bbls.	Depth
The Texas Co. Lewis 2	10	3090
WHEELER COUNTY—		
Dobbs et al, Pakan 1	¶5	2130
The Texas Co., D. L. Morgan 1	¶21	2017

WEST TEXAS

CRANE COUNTY—		
Magnolia, University-Hardwick 12	40	2966
University-Hardwick 13	600	2971
University-Hardwick 14	1000	2888
Pecos Oil Co., University 13	1000	2960
University 14	900	2950
Prairie O&G Co., University-Lassiter 7	70	2990
PECOS COUNTY—		
Gulf, M. A. Smith 2	5400	1483
G. L. Thompson 3	11,520	1042
Humble, M. A. Smith 4	6000	1675
M. A. Smith 1-B	2040	1512
Marland Oil Co., Yates 9-A	4560	1030
Yates 10-A	7200	1015
Mid-Kansas-Transcontinental, Smith-Taylor 5	4800	1305
Smith-Taylor 6	5000	1229
I. G. Yates 16-B	3000	1050
I. G. Yates 8-C	5000	602
WINKLER COUNTY—		
Gulf Prod. Co., Hendricks 5	¶30-1800	2880
Independent O&G Co., Hendricks 1-B	520	3043
Republic Prod. Co., Grisham-Hunter 1-A	6000	2867
Southern Crude & R. A. Westbrook, Grisham-Hunter 1-A-T-89	¶30-65	2687

MOUNTAIN STATES

MONTANA

KEVIN-SUNBURST—		
Ohio Oil Co., Emmert 5, 15-35-2w	8	....

WYOMING

ROCK RIVER—		
Ohio Oil Co., Harrison-Cooper 12, 2-19-78	100	3465

This Is the Way They Said *"Merry Christmas"* When JARECKI Was Established

. . . . Many things have changed since 1852, when JARECKI was established, but the spirit of Christmas remains much the same.

There is still the good cheer, still the friendly warmth, still the season of well-wishing.

JARECKI closes the seventy-fifth year of its business existence with the wish for seventy-five years of peace, happiness and prosperity for you!

Jarecki

MANUFACTURING COMPANY

Home Office and Factory—Erie, Pa., U. S. A.
General Office, St. Louis, Mo.

Branch stores at all important places in the Oil Country.

District Offices { Pittsburgh, Pa.; El Dorado, Kan.; Tulsa, Okla.; Newark, Ohio; Eastland and Dallas, Texas; Lawrenceville, Ill.

The Problem of Reducing Belt Troubles

On this well, the best equipped well in the Powell, Oklahoma, field, belt troubles have been eliminated by the use of a Nuttall Single-Reduction Oil Well Pump Gear Unit.

Nuttall Single-Reduction Oil Well Pump Gear Units on electrified wells will do away with all the belt troubles of a counter-shaft drive. Whether the final drive to the band wheel is by means of a belt or of a chain, these units will accomplish a decided saving in power and maintenance costs.

The slide rails which allow the lateral adjustment of the gear unit make it possible to maintain the correct tension on the belt or chain at all times, eliminating slippage and power losses.

The smooth even operation effort which the gear unit affords, will not only pump more oil, but will give greater life to the driving belt or chain. Belts and chains will not break so often and production will not be interrupted.

Nuttall units reduce maintenance to the very minimum, as the only attention they require is the occasional addition of oil to the case.

Send for our bulletins.

R. D. NUTTALL CO., Pittsburgh, Pa.

DALLAS, Magnolia Building HOUSTON, Union Nat'l Bank Bldg. LOS ANGELES, 420 S. San Pedro St.

OIL WELL SUPPLY CO., Authorized Distributor.

Nuttall

PERMITS GRANTED FOR NEW WELLS

WEEKLY COMPARISON OF NEW WELLS

Following is a condensed table giving a comparison of permits or locations made for new wells during the past year in Kansas, Oklahoma, Arkansas, Louisiana, Texas, California and the Mountain States:

	Week ending Dec. 17	Previous week	Total this month	Total this year	This week last year	This month 1926	Total same date 1926	Year total 1926
Arkansas	2	12	18	322	15	29	1,037	1,046
California	35	30	101	1,173	20	75	1,368	1,389
Louisiana	15	20	53	794	23	63	1,445	1,463
Kansas	20	22	60	929	23	79	1,838	1,905
Oklahoma	57	71	183	3,590	83	255	5,498	5,584
Texas	128	195	462	8,457	214	604	12,748	12,978
Mountain States	...	..	...	431	16	35	*782	*794
Totals	257	350	877	15,696	394	1,140	24,697	25,159

*First four months of 1926 not included.

KANSAS

BUTLER COUNTY—Davis et al Lewis 3, nwc sw sw, 3-27e-6e. Rosenthal et al, Shaffer 8, nec se se, 4-27s-6e. Richmond Drlg. Co., Getter, nec sw, 17-27s-6e. Blakely & Wentz, Henry 1, nwc sw, 21-27s-6e.

COFFEY COUNTY—Bruce, Bradley & Gore, Reed 1, nwc sw sw, 23-22s-15e.

COWLEY COUNTY—Kentucky N. & O. Co., Dobson 1, swc ne, 24-33s-5e.

ELK COUNTY—Jacqueline Oil Co., Hawkins 2, nec nw se, 34-29s-12e. Theta Oil Co., Marshall 3, swc se se, 27-31s-10e.

GREENWOOD COUNTY—Theta Oil Co., Fankhouser 3, sec sw se, 23-22s-12e. Empire O. & Pet. Co., Schwab 5, nec se ne, 25-22s-12e. Rhodes & Empire, Wassom 1, nec, 27-22s-12e. Darby Pet. Co., Schwab 4, nwc sw nw, 30-22w-13e. Murphy et al, Green 6, nwc ne nw, 14-23s-9e. Lasson et al, Wilkerson 3, se c sw, 6-25s-9e. Empire O. & R. Co., Webber 1, sec nw sw, 10-25s-13e. Foster Oil Co., Taylor 1, owd nec nw, 7-27s-12e.

OSBORN COUNTY—Liggett et al, Worley 2, nec se nw, 34-10s-15w.

RUSH COUNTY—Wilcox O. & G. Co., Munsell 4, sw c, 17-12s-15w.

SUMNER COUNTY—Roxana Pet. Co., Emerich "A" 4, nwc sw se, 14-32s-2e. Wasson et al, Gassoway 2, sec sw, 14-32s-2e.

OKLAHOMA

BECKHAM COUNTY—Magnolia Pet. Co., Baggett 1, nec nw nw, 29-9n-23w.

CIMARRON COUNTY—Ramsey Pet. Co., State Land 1, c sw sw, 21-5n-5e.

CREEK COUNTY—H. C. Wilson 1, swc se, 3-15-8e. Bu-Vi-Bar Oil Co., Bettie Cain 1-A, swc ne ne se, 18-17n-7e. Wood & Wood, S. McIntosh 1, swc se sw, 34-19w-8e.

KAY COUNTY—Harris & Haun, LaMar 2, nec nw sw, 22-29n-1w. Marland, White 3, c sw nw, 17-29n-1e. Tidal Oil Co., Cole 1, csl n½ ne se, 18-29n-1e; Cole 2, c se se, 18-29n-1e. Ivan Otstott et al, School Land 2, 76, nwc se sw, 36-28n-1w. J. H. Markham, Jr., Magaha 1, sec ne, 34-26n12w. Fred Morgan, Curry 1, sec ne se sw, 19-28n-1e.

LOGAN COUNTY—Ramsey Bros., Lovell 1, swc se ne, 16-18n-4w.

MUSKOGEE COUNTY—J. D. Linthecum, Kelley 2, csl sw ne se, 5-14n-19e. J. L. Dixon et al, Callahan 5, c se, 2-14n-18e. E. Price Russell 1-A, nec se se se, 19-15n-16e.

OSAGE COUNTY—Beacon Oil Co., Fitzstephens 1, swc ne, 3-28n-8e. Phillips Pet. Co., 1, swc ne, 11-26n-6e. Geo. Parker 5, sec nw, 11-16n-6e. McCuen, Warmser et al 1, swc nw, 15-24-8e. A. Oliphant et al, 1, sec ne nw nw, 7-24-9e. Winona Oil Co., 1, csl ne, 19-22n-12e.

OKMULGEE COUNTY—J. E. Wallace, Colbert 5, c nw se, 14-14n-14e. F. D. Misener, Colbert 2, cel ne sw, 14-14n-14e. Lavery & Farrell, Carter 1, nwc se se, 10-15w-14e.

PAWNEE COUNTY—Wallace et al, Green 1, nwc sw, 29-20-9e. J. H. Turnet & Pac. Oil Co., Weeks 2, nec se, 30-20-9.

PAYNE COUNTY—Willis O. & R. Co., Smith 1-A, nwc se, 10-18n-5e. Pure Oil Co., Varley 1, nec sw se, 7-18n-4e; Hamsey 2, swc ne se, 7-18n-4e. Payne County Gas Co., Knott 2, nwc se se, 7-18n-4e.

POTTAWATOMIE COUNTY — Gypsy Oil Co., Sullivan 1, nwc ne se, 25-7n-3e. Magnolia, Green 1, swc nw, 13-7n-4e; Risenhoover 1, sec sw ne, 14-7n-4e. Frank Davis 2, nec ne, 15-7n-4e. F. Singletary, 2, nec se nw, 23-7n-4e.

PITTSBURG COUNTY — Quinton Spelter Co., Houston 1, nec ne, 17-7n-18e.

PONTOTOC COUNTY—Coleman Pet. Co., Martin 1, nec sw se, 25-5n-6e. Homa Okla. Oil Co., Berry 1, sec ne se, 19-5n-8e.

ROGERS COUNTY—L. E. Keys, Childers 1, sec 26-19n-17e.

SEMINOLE COUNTY—Tidal Oil Co., Fixico 1, nec nw sw, 9-8n-6e; Harjoche 8, nwc sw, 10-8n-6e. T. B. Slick, Barrett 1, nec se nw, 13-5n-6e. Mid Continent Pet. Co., Fleet 1, sec, 7-5n-8e.

STEPHENS COUNTY—Magnolia Pet. Co., Webb 4, swc nw sw se, 3-2s-5w. Scott, Arington et al, George Brown 1, nec sw nw, 19-2s-7w. Pace et al, Adams 1, swc ne, 12-2s-8w. Four-In-One Oil Co., Hanson 1, nwc, 35-1s-8w. Harry Hanbury, Taliaferro 6, nwc se nw se, 27-1s-8w. Smith-Law Pet. Co., Brymer 6, swc sw ne ne, 31-1n-8w. Magnolia, Funk 1, nwc sw ne nw, 30-1n-3w. Lone Star Gas Co., Wilson 8, cel nw sw, 9-32-5w; Bryme 2, nw nw se ne, 31-1n-8w. Skelly Oil Co., Krebbs 4, nwc sw se, 13-18-4w.

TULSA COUNTY—D. W. Franchot, Bruner 8, nec sw ne sw, 22-17n-13e.

WAGONER COUNTY—Wilson & Tillman, Butler 2, c se se, 33-16n-17e. M. E. Johnson, Lunnon 4, c se nw nw, 14-16n-16e. A. Chapman, Hosmer 2, nec nw sw se, 21-18n-17e.

CALIFORNIA

CAT CANYON—Magenheimer Securities Co., 1, 30-9-32.

COYOTE HILLS—Chicksan Oil Co., Yorba 1, 19-3-9.

GOLETA—Santa Barbara Oil Co., Ellwood 1, 2-4-29.

HUNTINGTON BEACH—Belle of Montebello Oil Co., 7, 2-6-11. Standard Oil Co., Bolsa 31, 34-5-11.

KERN COUNTY—Pearl Durnal, No. 1, 32-27-29.

KERN FRONT—Chanslor - Canfield Midway Oil Co., 14, 23-28-27. George F. Getty, McDougall 2, 26-28-27. Petroleum Securities Co., 9, 22-28-27; 3-B, 22-28-27. The Kern River Oil Fields, Ltd., 10, 26-28-27. General Pet. Corp., Sill 36, 26-28-27; Wetmore 7, 14-28-27.

LONG BEACH—T. J. Cannon, Jones 2, 29-4-12. A. S. Johnston Drilling Corp., 6, 30-4-12. Rio Grande Oil Co., A-3, 29-4-12; Flower State 2, 29-4-12. Union Oil Co., L. B. C. 18, 30-4-12; L. B. C. 20, 30-4-12. Richfield Oil Co., W. & M. 4, 29-4-12. Continental Oil Co., 1, 19-4-12. Marine Corp., 28-A, 19-4-12. California Eastern Oil Co., Campbell 1, 29-4-12. Biltmore Oil Co., 1, 29-4-12. Delaney Pet. Corp., Alsop 1, 19-4-12. Shell Co., H. M. 7, 29-4-12. Herndon Pet. Corp., Herndon 4, 28-4-12. Universal Cons. Oil Co., Stoll 1, 29-4-12.

NEWPORT—Mesa Pet. Corp., B. & G. 1, 21-6-10.

OJAI—J. W. Hackworth, H. T. 1, 11-4-23.

RINCON—Pan American Pet. Corp., State 2, 17-3-24. General Pet. Corp., Tomson 1, 8-3-24.

SEAL BEACH—Union Drilling & Pet. Co., Thompson 1, 3-5-12.

SESPE—Keck Investment Co., Sespe 1, 33-4-20.

SOUTH MOUNTAIN—Oak Ridge Oil Co., Willard 25, 18-3-20.

ARKANSAS

COLUMBIA COUNTY—Van Hagen Synd. Mason 1, 31-19-22, 500 ft n and 500 ft e of sw c sw se.

UNION COUNTY—E. N. Wood, Houston 1, 12-16-16, 757 ft n and 200 ft w of se c.

LOUISIANA

BOSSIER PARISH—Autrey Oil Co., Houston, Snider 4, 22-19n-11w, 1495 ft s and 995 ft e of nw c w½ ne. C. F. Davis, et al, Shreveport, La., Simpson 5, 14-16n-12w, 420 ft s and 1704 ft e of nw c sw.

CADDO PARISH—Belchic & Laskey, Inc., Shreveport, M. A. Boyton & B. L. Croom, 11-18n-16w, 1980 ft w and 660 ft s of ne c. Greenwood Prod. Co., Shreveport, Alexander 1, 27-18n-16w, 1980 ft n and 1320 ft w of se c. Standard, Shreveport, Stiles et al 191, 27-21n-16w, 165 ft n and 694 ft w of se c sw.

CALCASIEU PARISH — Rex Pet. Co., Orange, Texas, Hunter 8, 21-9s-11w, 50 ft n and 50 ft e of sw c sw se. Wilson-Broach Co., Beaumont, Texas, Wilson 3, 28-9s-11w, 1105 ft w and 450 ft s of ne c.

DE SOTO PARISH — Baca Drilling Co., Shreveport, Stevens 1, 12-11n-16w, 160 ft s and 160 ft w of ne c ne se nw. J. B. Greer, et al, Shreveport, B. F. Moore 1, 32-10n-12w, 300 ft s and 300 ft w of ne c se.

RED RIVER PARISH — J. H. Askew, Shreveport, Richardson, et al, 3, 25-13n-11w, 3070 ft s and 2625 ft w of ne c se of sec 24 in sec 25.

RICHLAND PARISH — Gulf, Shreveport, Chess & Wymond Co. 1, 20-18n-6e, 3910 ft n and 660 ft e of sw c. Moody & Seagraves, Houston, Hatch 1, 34-16n-5e, 1982 ft e and 1330 ft s of nw c se. Natural G. & F. Corp., El Dorado, Ark., (change in designation of well) Thomason A-1 changed to Thomason C-1, 21-16n-6e, 1320 ft s and 940 ft w of ne c.

UNION PARISH—Nat. Gas Prod. Co. of La., Bastrop, Waldrop 1, 7-21n-3e, 1960 ft n and 2630 ft w of se c. John Potts, Agent, Monroe, Bernstein 1, 30-20n-4e, 444 ft e and 660 ft s of nw c.

WEBSTER PARISH — Ohio Oil Co., Shreveport, Bodcaw Lbr. Co. 38, 15-21n-10w, 927 ft n and 710 ft e of sw c se.

TEXAS

ARCHER COUNTY — V. O. E. Wright, Wichita Falls, Miller 1, Holliday sur, sw corner of blk 82; 2, se corner of blk 83; 3, ne corner of blk 79. Shasta Oil Co., Wichita Falls, Wilson 1, blk 111, Amer. Trib. sur, 150 ft from e and 450 ft from s line. Golding & Cochran, Wichita Falls, Prideaux 20, J. Dorsey sur, 407 ft e of 19. Consolidated Oil Co., Wichita Falls, Stephens-Roach 1, J. McCraney sur, 150 ft from s and e lines. Golding & Cochran, Wichita Falls, Prideaux B 1, blk 20, A. McMullen sur, 750 ft from w and 150 ft from s line. Rayzor & Humble O. & R. Co., Wichita Falls, Ebnother 1, blk 102, Harris sur, 150 ft from n and 1556 ft from w line. Harry Hines, Wichita Falls, Wilson 1, blk C3, J. Taylor sur, 1650 ft from e and 150 ft from s line. Texas Co., Wichita Falls, Garvey B 1, s 93, J. C. S. L. sur, nw corner.

ANDREWS COUNTY—Geo. B. Calvin, Fort Worth, Ratliff-Bedford 1, S 16, blk A 54, School sur, 1320 ft from n and e lines. J. S.

Cosden, Inc., Fort Worth, Ratliff-Bedford 1, S 8, blk 73, School sur, 1320 ft from s and e lines.

BROWN COUNTY—Gilman & McMurray, Cisco, Hickman 1, T. Benson sur, 1600 ft from e and 155 ft from s line. Blanchard & Porter, Brownwood, Kesler 1, T. A. Kesler sur, 309 ft from n and 357 ft from e line. M. E. Bishop, Brownwood, Westcott 7, W. H. Irion, sw corner, M. B. Morgan, Brownwood, Capps 1, No. 17, P. Sullivan sur Inland Oil Co., Brownwood, Cleveland 1, H. Kraler sur, 200 ft from s and w lines. Lamb & Shaw, Brownwood, Gwathney 2, D. Harris sur, 590 ft from n and 150 ft from e line.

BREWSTER COUNTY—A. A. Rollestone, Wichita Falls, Combs 1, S 1, GC&SF sur, 200 ft from n and 2640 ft from e line.

BRAZORIA COUNTY — Brazo Oil Co., Houston, Wisdom 2, A. Darst sur, se corner.

BEXAR COUNTY — Schimmel Pet. Co., Fort Worth, Koehler 20, blk 39, C. A. Yoakum sur, 608 ft e of 19; 19, 608 ft e of 14; 18, 569 ft s of 11; 21, 569 ft s of 18.

CALLAHAN COUNTY—St. Mary's O. & G. Co., Moran, Eubanks 11, 2287, TE&L sur, 300 ft nw of 8. Homer Peopel's, Fort Worth, Snyder 1, S 60, L. A. L. sur, 250 ft from e and 150 ft from s line. J. B. Douglas, Fort Worth, Rutland 1, S 385, G. Hancock sur, 150 ft from n and w lines. Peer Oil Corp., Fort Worth, Biggerstaff 1, S 304, S. P. Ry. sur, 150 ft from s and e lines. L. G. Bradstreet, Fort Worth, Waller 4, G. M. Vigal sur, 400 ft e of 3.

CRANE COUNTY—Humble, Wichita Falls, University B B1, S 15, blk 34, Univ. Lands sur, 330 ft from s and w lines; Terrell Univ. 1, S 15, blk 34, Univ. Lands sur, 490 ft from n and 2795 ft from e lines; University B 1, S 35, blk 30, Univr. Lands sur. Pecos Oil Co., Best, University 15, S 47, blk 30, Univ. Lands sur, 990 ft from s and e lines; 14, 990 ft from s and w lines; 13, 990 ft from n and w lines. Independent O. & G. Co., Fort Worth, Lasseter 2, S 35, blk 30, Lasseter sur, 330 ft from s and e lines.

COLORADO COUNTY — Rich Oil Corp., Houston, Rosenberg 1, J. Hadden sur, 175 ft from w and 115 ft from s line.

COLEMAN COUNTY—Manhattan Oil Co., Abilene, Overall 1, S 14, blk 2, W. B. Simpson sur, 1400 ft from n and 200 ft from e line. Dallas Pet. Co., Dallas, Babington 4, S 80, W. L. Rose, sur, 698 ft from e and 1377 ft from s line. Griffith & Jackson, Burkett, Helms 1, blk 14, 450 ft from s and w lines. Barbee & Ross, Coleman, Cord 1, S 41, BBB&C sur, 1460 ft from n and 868 ft from w line; McWilliams 1, S 73, H. M. Childress sur, 584 ft from n and 2367 ft from e line; Farmer 1, S 159, J. W. Week sur, 4326 ft from n and 660 ft from w line; McCord 1, S 159, J. W. Meek sur, 660 ft from n and e lines.

CASS COUNTY—Texas Co., Wichita Falls, Pruitt 1, W. G. Lissenbee sur, 300 ft from n and e lines.

COOKE COUNTY — Murchison Oil Co., Wichita Falls, Mitchell 1, T. Toby sur, 150 ft from s and w lines.

DUVAL COUNTY — Humble, Houston, Kohler 7, S 165, No. 400 sur, 200 ft from n and w lines.

EASTLAND COUNTY — Phillips Pet. Co., Bartlesville, Okla., Pence 1, 2981, TE&L sur, 330 ft from n and e lines. Root & Chestnut & Smith, Eastland, Kutklin 1, S 62, blk 4, H&TC sur, 500 ft from n and w lines. H. K. Spear, Cisco, Ft. Howard Co. 2, S 17, blk 2, E. T. Ry sur, 450 ft from n and 300 ft from w line. Schimmel Prod. Corp., Fort Worth, Hamilton 1, McL. C. S. L. No. 2 sur, 350 ft from s and w lines. E. V. Parsons et al, Fort Worth, Jones 1, No. 2 McL. C. S. L. sur, 250 ft from n and w lines; Howard 1, No. 2 McL. C. S. L. sur, 200 ft from s and w lines; Blackwell 1, No. 2 McL. C. S. L. sur, 330 ft e of center of w line. Belva Oil Co., Eastland, Good 3, J. R. Stubblefield sur, 225 ft from n and 305 ft from e line.

GRAY COUNTY—Guernsey O. & G. Co., Pampa, McKinney 1, S 163, blk 3, I&GN sur, 330 ft e of center of w line; 2, 330 ft from w and 264 ft from s line.

GLASSCOCK COUNTY—Weekley Oil Corp. et al, Odessa, Roberts 1, S 156, blk 29, W&NW sur, 150 ft from n and 330 ft from w line. Magnolia, Dallas, Roberts 3, S 157, blk 29, W&NW sur, 1600 ft from n and 330 ft from e line.

GRAYSON COUNTY — J. M. Burnham, Fort Worth, University 1, blk 1068, J. Strickland sur, 150 ft from s and e lines.

GONZALES COUNTY—Mrs. M. S. Sterns, Luling, Ramzinsky 1, Gonzales sur, 1120 ft from n and 725 ft from w line.

HARRISON COUNTY—Hutchinson et al, Shreveport, La., Bryson 1, W. R. Anderson sur, 1988 ft from e and 330 ft from n line; 2, 2068 ft from e and 990 ft from n line. Simms Oil Co., Dallas, Pollard 1, J. Short sur, 330 ft from s and w lines. J. R. Bahan, Shreveport, La., Furrh 1, J. Lipscomb sur, 165 ft from e and 1300 ft from s line; 2, 1100 ft s of No. 1. M. L. Friend, Shreveport, J. W. Furrh 5, J. Short sur, 4672 ft from n and 1470 ft from e line.

HARRIS COUNTY—Watts & Hale, Humble, Holmes 3, J. B. Jones sur, sw corner. Rio Bravo Oil Co., Houston, GH&SA 2, No. 51, J. Hamilton sur, 200 ft ne of 1; Settegast B, 7, No. 44, J. Kopman sur, 243 ft n of A7; GH&SA 1, No. 51, J. Hamilton sur, center. A & P Prod. Co., Houston, Whitehead 2, S 51, blk 9, J. Hamilton sur, 850 ft from n and 50 ft from e line.

HOWARD COUNTY—F H E Oil Co. & Flemming & Kimbell, Sherman, Roberts 1D, S 136, blk 29, W&NW sur, 200 ft from s and e lines. Schermerhorn Oil Co., Tulsa, Okla., Glasscock 1, S 157, blk 29, W&NW sur, 330 ft from n and w lines. Magnolia, Dallas, Roberts 6, S 136, blk 29, W&NW sur, 330 ft from n and e lines.

HOUSTON COUNTY—Texas Co., Houston, Monday 1, J. J. Thomas sur, 1467 ft from n and 150 ft from w line.

HILL COUNTY — O. W. Killam, Laredo, Johnson 1, J. McGee sur, 150 ft from ne and 1050 ft from se line.

JACK COUNTY—Amerada, Cisco, Fry 1, M. Putnam sur, 1500 ft from n and 2255 ft from e line. Measure & Fondren, Weatherford, Massie 2, J. Holderman sur, 1000 ft from n and 1125 ft from w line.

LIBERTY COUNTY — Yount-Lee Oil Co., Beaumont, Mitchell 1, M. G. White sur, 50 ft from s and w lines.

LIVE OAK COUNTY — Wm. F. Morgan, San Antonio, West 1, S 2, blk 1303, C. C. S. L. sur, w central.

LAMPASAS COUNTY—J. B. Davis, Dallas, White 1, S 9, No. 41, B. Kendrick sur, center.

MONTAGUE COUNTY—McGinley Corp., Fort Worth, Paine 1, W. Donohoo sur, 600 ft from n and 1000 ft from w lines. Pure Oil Co., Mexia, Loy 2, Wm. Donoho sur, 195 ft from w and 2590 ft from s line. Continental Oil Co., Wichita Falls, Edmondson 2, T. J. Edmondson sur, Jones A 1A Wm. Donoho sur, 150 ft from e and 450 ft from s line. McGinley Corp., Fort Worth, Loy 1, Wm. Donoho sur, 600 ft from n and 200 ft from w line. Continental Oil Co., Wichita Falls, Maddox A 24, H. S. Arnold sur, 150 ft from s and 431 ft from e line. Roy I. Carter, Wichita Falls, Cunningham 1, J. N. Hodges sur, 150 ft from n and 450 ft from e line.

MILAM COUNTY—W. A. Jones, Minerva, Smith 2, T. J. Chambers sur, 300 ft se of 1. J. W. Kemp, Cameron, Moody 1, J. Leal sur, 107 ft from e and 150 ft from s line.

McCULLOCH COUNTY—J. S. Stephenson et al, Pear Valley, Ludvick 1, S 60, Sherdon sur, 300 ft w of center of e line.

NAVARRO COUNTY—G. C. Kent, Corsicana, Harcy 21, S. F. McCandless sur, 300 ft sw of 19.

ORANGE COUNTY — Continental Oil Co., Wichita Falls, Chesson 13, Wm. Dyson sur, 100 ft from s and 75 ft from e line.

PECOS COUNTY — McMan O. & G. Co., Tulsa, Okla., Yates 15, S 34½, blk 194, GC&SF sur, 275 ft s of center of n line. Humble, Houston, Smith B B3, S 101, blk 194, GC&SF sur, 200 ft from n and w lines. Tex-Ore O. & G. Co., San Angelo, Yates 1, S 58, blk 1, I&GN sur, 150 ft from n and w lines.

PANOLA COUNTY—H. C. Morris, Bastrop, La., Roquemore 2, B. C. Jordan sur, 200 ft from n and 400 ft from e line. Magnolia, Dallas, Steele 13, B. Jordan sur, s of 12.

RUNNELS COUNTY — Jones Oil Synd., Coleman, Hale 1, blk 29, No. 109, E. T. Ry. sur, 212 ft from n and 150 ft from e line.

SHACKELFORD COUNTY — Roeser & Pendleton, Inc., Fort Worth, Cook 1, S 62, E. T. Ry. sur, 505 ft from w and 3400 ft from s line. Loggie & Arendt Oil Co., Albany, Blach 16, 507, TE&L sur, 290 ft from nw and 300 ft from ne line. Harry Shulman et al, Breckenridge, Isbell 7, 818, TE&L sur, 750 ft from s and w lines. Phillips Pet. Co., Bartlesville, Okla., Witty 4, S 52, Blind Asy. sur. H. M. Thomas, Albany, Herron 1, S 10, blk 11, T&P sur, 750 ft from e and 811 ft from s line. Home O. & G. Co., Inc., Albany, Leschber 5, 536, TE&L sur, 450 ft from sw and 1698 ft from se line. Roeser & Pendleton, Inc., Fort Worth, Cook 1A, S 61, E. T. Ry. sur, 150 ft from nand e lines. P. S. Kendrick et al, Albany, Handrick 5, S 4, L. A. L. sur, 100 ft w of 4. Forsyth, Choate & Texas Cons. Oil Co., Fort Worth, Sidebottom 2, 597, TE&L sur, 10505 ft sw of 1.

SAN PATRICIO COUNTY—Mission Drilling Co., H 119, W. Nueva St., San Antonio, Morrison 1, 200 ft from s and e lines; Hunter 1, 200 ft from n and e lines. Geo. B. Pickett, Corpus Christi, Whitworth 1, S 60, blk 1, G. H. Paul sur, 800 ft from n and 600 ft from w line.

STEPHENS COUNTY—Leiser, Rockmill & Snebold, Fort Worth, Winston 1, S 39, blk 5, T&P sur, 330 ft from n and e lines.

VICTORIA COUNTY—J. J. Elam San Antonio, Kutchka 1, blk 40, 150 ft s of center of n line.

WICHITA COUNTY—P. T. Menke, Iowa Park, Chilson 1, blk 20, D. C. S. L. sur, 375 ft from n and 150 ft from e line. Petroleum Prod. Co., Wichita Falls, Love B 10, blk 11, W. S. Kennard sur, 200 ft from n and 150 ft from w line.

WILBARGER COUNTY—Fain-McGaha Oil Corp., Wichita Falls, Waggoner L 2, S 31, blk 4, H&TC sur, 300 ft s of 1. Milham Corp., San Antonio, Waggoner 3C, S 57, blk 4, H&TC sur, 150 ft from n and e lines. Barkley & Meadows, Wichita Falls, Waggoner 1A, S 24, blk 4, H&TC sur, 205 ft from s and w lines.

WINKLER COUNTY—Gibson & Johnson, Abilene, Daugherty 1, S 3, blk 74, School sur, 300 ft n of center of s line. Atlantic Oil Prod. Co., Dallas, Hendricks A4, S 34, blk B5, School sur. Southern Crude Oil Purchasing Co., Shreveport, La., Hendricks F3, S 33, blk B5, School sur, 330 ft from e and 990 ft from s line; F4, 660 ft s of 3.

WILLIAMSON COUNTY—S. M. Messer, Davilla, Forwood 1, S 4, HT&B sur, 600 ft n of center of s line.

WHARTON COUNTY—Geo. Hyde, Houston, Woytek 6, S. F. Austin sur, 50 ft from s and e lines.

YOUNG COUNTY—Clark & Pagan, Wichita Falls, Howell 2, 1394, TE&L sur, 450 ft from s and w lines. Griffith & Wright, Loving, J. A. Holt 1, S 2, BS&F sur, 300 ft from n and 450 ft from e line. Hinson & Tidwell, Graham, Ragland 1, N. J. Akers sur, 165 ft from s and 800 ft from w line.

Garfield County

Tulsa. — Marland Oil Company's Sarah Whipple deep pool northeast of the Garber field, Garfield County, is holding up well, it is indicated by production from four wells producing in the vicinity. Marland's Sarah Whipple 2, in the northeast of the southwest of section 19-23-3w, was making 280 barrels from 5313 feet, pinched in to less than a one-half-inch choker. Marland's Garber 1, made 240 barrels from 5283 feet, Skelly's Wilcox 1, in the southeast of the northwest of section 19, made 225 barrels and 26 barrels of water from 5409 feet, and Amerada and Champlin's Wilcox 1, in the southwest of the northeast of section 19, made 65 barrels of oil and 20,000,000 cubic feet of gas from 5687 feet.

Haul Capacity Loads

Mud, loose sand or other difficult going doesn't stop Athey Truss Wheel Wagons. They carry capacity loads wherever animals or tractors can operate because they make their own roads as they go.

Notice how the wheels carrying the load roll on broad steel tracks—not in the mud. Regardless of actual road conditions, Atheys carry their load on never ending highways of steel. Constructed with anti-friction bearings throughout, they carry twice the ordinary load with half the tractive power over the worst kind of going.

The above illustration tells its own story. Athey Truss Wheel Wagons have many practical, economical advantages for heavy hauling. See your nearest Caterpillar Tractor Company Dealer or write us for full information.

ATHEY TRUSS WHEEL CO.

130 N. Wells St., Chicago, U. S. A.

The Baldwin Locomotive Works, Foreign Representatives, Philadelphia, Pa.
Cable Address: Trusswheel, Chicago

ATHEY TRUSS WHEEL WAGON

IT BRIDGES THE SOFT SPOTS

WILDCATS FROM ALL SECTIONS

LOUISIANA

Company, Well and Location	Initial Production Bbls.	Depth
Completions		
CADDO PARISH—		
State Line O. & G. Co., Amerada-Sharp 1, 22-18-16	*	925
NATCHITOCHES PARISH—		
Lawson & Pharris, Delrie 1, 18-5-5..	*	1310
OUACHITA PARISH—		
Peerless, Co., Moore 3, 49-20-4e....	*	....
WINN PARISH—		
Ohio Oil Co., Edenborn 1, 31-10-4w	*	2680

BIENVILLE PARISH—E. J. Fotrest's Perritt 1, 11-17-6, sd 2520 ft. Lake Bistineau Gas Co.'s State 1, 16-16-10, coring 2526 ft. La. Pet. Co.'s Hayes 1, 18-16-5, sd 2450 ft.

BOSSIER PARISH—Arkansas Nat. Gas Co.'s Barnett 1, 17-23-12, dr 400 ft. Autrey Oil Co.'s Snyder 3, 22-19-11, set 6-inch at 422 ft. Bahan & Davis' Dodson 1, 15-23-12, testing 3103 ft. Belchic & Lackey's G. W. Roberson 1, 22-23-12, set 8-inch 800 ft. R. L. Crook's Larkin 9, 14-19-11, lcn. Doern et al's Bollinger 1, 9-22-11, dr 2410 ft. C. F. Davis' Simpson 4, 14-16-12, lcn. H. S. Goodwin Tr.'s Curtis 1, 2-16-13, flowing 2604 ft. Mamiter et al's Hamiter 1, 10-23-13, dr 50 ft. Humble's B. & W. 30, 15-19-11, dr 4621 ft. Magnolia's G. W. Roberson 1, 26-23-12, arr to set 8⅛-inch 3057 ft O'Brien Bros.' Dodson 1, 22-23-12, 15 mil ft gas at 3095 ft; Farrington 1, 21-23-12, rig. Palmer Corp.'s Burke 1, 26-17-12, set 12½-inch 232 ft. R. O. Roy's Werner 1, 7-17-11, dk. Sales & Walker's Bollinger 3, 30-23-11, wosr 3091 ft. Walker et al's Antrim 1, 28-23-12, dr 2425 ft. Woodley & Collins' L. & A. 3, 15-23-12, fsh 3087 ft.

CADDO PARISH—Arkansas Nat. Gas Co.'s Alexander 1, 20-16-16, dk; Lane 1, 13-21-15, (formerly Ark. Fuel Oil Co.) dr stuck 3090 ft. Arkansas Fuel Oil Co.'s Lane 2, 13-21-15, sd 3865 ft. Bee Oil Co.'s Muslow 1, 29-20-15, rig. Bussa & McColerick's Bickham 7, 28-21-15, wosr 1603 ft. J. W. Burton Tr.'s Caldwell 8, 18-21-15, dk. W. D. Chew's Fee 7, 23-21-16, set 6-inch 1800 ft; State 6, 34-21-16, lcn. Dixie Oil Co.'s C. M. L. 9, 23-21-15, bailing 3894 ft, td 3909 ft; Clark 9, 14-21-15, tested show gas 3681 ft; Robertshaw 90, 14-21-15, pulling 6¼-inch at 3683 ft; Robertshaw 91, 14-21-15, dk; Robertshaw 92, 13-21-15, dr 2310 ft; Huckaby 1, 33-22-15, dk; Huckaby 4, 11-21-15, dr 3140 ft. Ferguson et al's Abney 1, 7-17-16, set 6-inch at 927 ft. Gulf's Herndon 10, 15-21-15, set 4¾-inch 3900 ft; Tyson 14- 14-21-15, set 4¾-inch 3934 ft. Greenwood Prod. Co.'s Cooper & Ellerbe 1, 15-18-14, ½ million ft gas 935 ft, td 1960 ft; Alexander 1, 27-18-16, dr 45 ft. Hayes Bros.' Spell 1, 15-21-15, set 5-3/16-inch at 3891 ft; Spell 2, 15-21-15, sd 3092 ft. Magnolia's Bell 2, 6-17-16, dk; Furrh 1, 28-18-16, sd 1998 ft; J. Furrh 1, 32-18-16, coring 2518 ft; Dillon 18, 24-21-15, dk; Dillon 21, 23-21-15, lcn; Robertshaw 21, 23-21-15, arr to set 5¾-inch 3928 ft; Robertshaw 22, 23-21-15, dr 3000 ft; Hampton A-8, 15-21-15, sd 3504 ft. Ohio Oil Co.'s Plum 1, 32-23-16, sd 1619 ft; Smith 25, 12-21-15, dr 5341 ft; Thompson 1, 32-23-16, dr 3161 ft. Palmer Corp.'s Sellington 1, 17-21-14, dr 4391 ft. Rogers & Jensen's Newton Smith 1, 22-20-16, lcn. Shreveport Oil Corp.'s Muslow 2, 32-21-15, lcn; Smith 1, 23-21-15, dk; State 2, 27-21-15, sd 2400 ft. Simplex Oil Co.'s Thomas et al 3, 15-20-15, wosr 2355 ft; Thomas et al 4, 15-20-15, wosr 2208 ft; Hunsucker 1, 15-20-15, setting 6-inch at 2200 ft. Standard Oil Co.'s Stiles 190, 27-21-16, rig. Superior Oil Co.'s Youree 8, 26-20-15, lcn. Standish Oil Co.'s Jolly 1, 22-22-15, cemented cavity at 1048 ft. The Texas Co.'s C. M. L. 47, 23-21-15, sd 3657 ft; C. M. L. 50, 23-21-15, set 6¼-inch 3850 ft; C. M. L. 51, 23-21-15, set 4½-inch 3811 ft, td 3942 ft; Mabry 10, 15-21-15, dr 3923 ft; Herndon 7, 14-21-15, dk; Herndon 8, 14-21-15, dr 2410 ft; Herold 10, 14-21-15, coring 3925 ft; Raines 19, 15-21-15, arr to test 4036 ft; Noel B-13, 14-21-15, arr to deepen 3815 ft; Noel B-14, 14-21-15, blowing with air 3050 ft. Tubbs et al's Hines 1, 16-14-16, arr to set 6-inch at 2268 ft. Woodley Pet. Co.'s Knight B-5, 39-15-12, rig. Woodley & Collins' McVey A-1, 23-19-14, arr to set 6-inch 2569 ft. Waterman Brick & Tile Co.'s Fee 1, 18-17-16, set 8-inch 895 ft.

CALDWELL PARISH—Grayson Oil Co.'s Crockett 1, 6-12-4, sd 2692 ft.

CATAHOULA PARISH—S. D. Hunter's Tensas Delta 2, 21-9-7e, dr 2790 ft. Lochnager et al's Beazley 2, 26-9-6e, perforating casing at 2095 ft; McMillan 1, 29-8-6e, dr 2640 ft. Standard Oil Co.'s Tensas 1, 23-9-5e, coring 2150 ft.

CLAIBORNE PARISH—El Dorado Chief Oil Co.'s Jones 1, 8-20-6e, dk. Magnolia's Lee 1, 16-22-8, coring 4662 ft.

DE SOTO PARISH—American Controlled Oil Co.'s Lanier 2, 5-11-11, set 6⅝-inch 2688 ft. J. H. Askew's Richardson 2, 25-13-11, set 6-inch 2477 ft. Benson Oil Co.'s Wolf 1, 3-10-13, dr 2800 ft. Chal Daniels' Frost Johnson 1, 1-11-16, sd 100 ft. Carlton Drilling Co.'s Stevens 1, 12-11-16, set 10-inch 210 ft. Dixie Oil Co.'s Jenkins 1, 9-12-11, set 10-inch 210 ft. Dixie Oil Co.'s Jenkins 1, 9-12-11, dr 5868 ft. J. W. Downey's Dickson 1, 23-14-13, dr 583 ft. Foster et al's Johnson 1, 7-10-12, dr 650 ft. Hazlett-Simmons' Neely 2, 1-14-12, sd 600 ft. R. O. Roy's Lee 1, 33-14-13, dk; Whittaker 1, 4-13-13, dk; Tracy 1, 3-13-13, dk. Reliance Drilling Co.'s Jones 1, 8-11-14, sd 2815 ft. Wingfield et al's Haygood 1, 18-10-12, sd 2400 ft.

FRANKLIN PARISH—Barbour Oil Co.'s Baker 1, 3-15-7e, sd 2884 ft. Pittsburgh O. & D. Co.'s Moore 3, 12-11-6e, set 6-inch 2147 ft. La. Pet. Co.'s Tensas 1, 11-11-6e, sd 1100 ft.

GRANT PARISH—W. D. Ball et al's Calhoun 1, 4-7-4w, r 1800 ft. Swope et al's Fee 3, 18-9-1e, sd 1607 ft; Fee 5, 18-9-1e, dk.

LA SALLE PARISH—Elbert Pet. Co.'s Urania B-3, 7-10-2e, sd 700 ft. Wingfield et al's Gibson 2, 2-9-1e, sd 3073 ft.

MADISON PARISH—W. S. Smith's Yerger 1, 1-16-4e, arr to deepen 1700 ft.

MOREHOUSE PARISH—Consolidated Pet. Co.'s Perry 1, 14-20-4e, set 12-inch 186 ft. Keisker et al's Bonita Lbr. Co. 1, 10-23-9e, dk. Natural Gas Prod. Co.'s Tensas Delta 10, 27-22-4e, set 6-inch 2155 ft. The Texas Co.'s Sivley 1, 22-20-6e, arr to abn 3820 ft. United Carbon Co.'s Atkins 1, 26-20-5e, dk.

NATCHITOCHES PARISH—Tate et al's Leopole 1, 4-10-10, lcn.

OUACHITA PARISH—Imperial O. & G. Co.'s Tubbs 3, 13-19-3e, set 8-inch 808 ft. Ouachita Nat. Gas Co.'s D'Arbonne 2-A, 34-19-3e, dr plug 2167 ft; Smith 7, 38-20-4e, dr 1885 ft. Palmer Corp.'s W. Va. T. Co. 3, 5-18-4e, rig. Southern Carbon Co.'s Fairbanks 8, 38-10-4e, set 6-inch 2088 ft. United Carbon Co.'s Nelson Fee 2, 6-19-5e, dr 120 ft. W. Virginia O. & G. Co.'s Fee 5, 5-18-4e, set 8-inch 960 ft.

RAPIDES PARISH—Collins Bros.' Allen 1, 25-5-1w, dr 1200 ft.

RICHLAND PARISH—Gulf's Wayne L. & T. Co. 2, 23-16-5e, sd 2453 ft; Millsaps 1, 8-17-6e, dr 1875 ft; Rhymes 3, 28-17-16, lcn. La. Pet. Co.'s Binion 1, 22-17-16, sd 2474 ft. Moody & Seagraves' Osborne 1, 14-15-5e, dr 1100 ft; Noble 1, 36-16-5e, dr 1976 ft; McClanahan 1, 36-16-5e, bailing 2300 ft; Hatch 1, 34-16-15, lcn; Hemler B-1, 20-16-6e, dr plug 2285 ft; Hemler B-2, 6-15-6e, dr 1986 ft; Hemler C-1, 29-16-6e, rig; LaFlour 1, 18-16-6e, lcn. Nat. G. & F. Corp.'s Soror A-1, 9-16-6e, set 8⅝-inch 2282 ft; Sortor B-2, 19-16-6e, set 6⅝-inch 2279 ft; Sortor B-3, 19-16-6e, lcn; Sortor B-4, 19-16-6e, lcn; Thompson A-1, 21-16-6e, lcn. Ouachita Nat. Gas Co.'s Cummings 1, 24-17-5e, lcn. Roxana's Tensas 2, 1-14-5e, dr 2590 ft. Standard Drilling Co.s' Delta H. L. Co. 1, 22-16-7e, dr 2786 ft. Southern Carbon Co.'s Sortor 1, 20-16-6e, dr 1700 ft; Sortor 2, 20-16-6e, lcn; Stovall Drilling Co.'s Dunning 1, 26-16-6e, dr 1555 ft.

SABINE PARISH—Arkansas Fuel Oil Co.'s Logan A-1, 23-10-12, co 4258 ft; Logan 10, 32-10-12, sd 3980 ft. S. P. Borden Tr.'s Logan 1, 36-10-13, dr 2036 ft. Clark Seip et al's Moore 1, 32-10-12, dr 350 ft. Dixie Oil Co.'s Steinfield 1, 20-10-12, dr 1700 ft. Doern et al's Pickering Lbr. Co. 1, 17-4-11, rig. L. M. Emlet's Bowman Hicks 6, 8-7-12, sd 3710 ft; Bowman Hicks 7, 11-7-14, bailing 3560 ft; Mansfield H. L. Co. 1, 15-7-14, set 12½-inch 120 ft. Magnolia's Rembert 2, 32-10-12, wosr 3240 ft. Moffitt et al's Moore 3, 5-9-12, wosr 3332 ft.

UNION PARISH—Barbour Oil Co.'s Tugwell 1, 21-22-1e, washing to bottom 2080 ft. Carter et al's Security Trust 1, 7-23-1e, sd 2257 ft. Interstate Nat. Gas Co.'s Parks 1, 32-20-3e, dk; Stephenson 1, 6-21-4e, lcn. Southern Carbon Co.'s Harris 1, 20-20-4e, dr 2154 ft. John Potts Ag'ts' Bernstein 1, 30-20-4e, lcn.

WEBSTER PARISH—Ark. Nat. Gas Co.'s North Central Texas 1, 36-23-10, dr 100 ft. Humble O. & R. Co.'s Gray 1, 26-21-10, dr 3787 ft; Babb 5, 14-21-10, dr 2718 ft. S. A. Lanes' Miles 1, 24-17-9, dr 1335 ft. Magnolia's Aarnes Cox 3, 22-21-10, dk; Marshall 5, 21-21-10, wosr 2526 ft; Mixon 1, 22-22-10, set 13⅜ inches at 322 ft; Cole 1, 27-21-10, dr 3551 ft; Munn 1, 29-23-9, dk; D. G. Cox 1, 22-21-10, changing rig 2715 ft; Newsome 1, 32-23-9, set 6⅝ inches at 2607 ft; Roseberry 1, 29-23-9, dr 475 ft. Northwest Louisiana Gas Co.'s Munn 1, 36-23-10, dr 2525 ft. Ohio Oil Co.'s Crichton 1, 21-21-10, lcn; Holloway 4, 23-21-10, dr 4537 ft.

WINN PARISH—Ohio Oil Co.'s Rolen 1, 9-12-1w, sd 2149 ft; Rolen Account 1, 5-12-1w, dr 3093 ft. H. M. Roark's Southern Mineral Co. 3, 19-11-3w, sd 525 ft.

WEST CARROLL PARISH—Palmer Corp.'s White 1, 2-19-10, set 6 inches at 2418 ft.

ARKANSAS

Company, Well and Location	Initial Production Bbls.	Depth
UNION COUNTY—		
Magnolia, Crawford 3, 8-16-16	*	....

BRADLEY COUNTY—Johnson & Adams' Southern Lbr. Co. 1, 12-12-12, sd 2204 ft.

COLUMBIA COUNTY — Mitchell et al's Franks 1, 25-19-22, sd 150 ft. Sunny Jim Oil Co.'s Runyan 1, 3-16-21, dr 1290 ft. VanHagen Synd.'s Pickler 1, 19-19-22, sd 850 ft; Mason 1, 31-19-22, rig.

DREW COUNTY—McClintock et al's Ogle 1, 35-13-3e, sd 2550 ft.

GRANT COUNTY—Jones et al's Meeks 1, 5-4-11, sd 1400 ft.

LA FAYETTE COUNTY—Ken-Shaw Pet. Co.'s Kensaw 1, 31-19-24, dr 3250 ft.

LINCOLN COUNTY—Pine Prairie O. & G. Co.'s Carter 1, 33-10-6, sd 2176 ft.

LITTLE RIVER COUNTY—Grote et al's Allen 1, 2-13-31, sd 2941 ft.

MILLER COUNTY—Guess et al's Saunderson 1, 14-15-25, sd 896 ft. Lenze et al's Mann 1, 22-15-26, sd 2889 ft.

NEVADA COUNTY—Aines & Zingg's Womack B-1, 10-14-21, wosr 1215 ft. Fruen et al's Rhodes 1, 22-12-21, sd 1513 ft. Humble O. & R. Co.'s Groves B-4, 1-14-21, wosr 1140 ft. McDonald et al's Pell 1, 9-15-22, arr to test 2195 ft. J. J. O'Brien's Haynie A-5, 6-14-20, wosr 1204 ft; Haynie B-1, 6-14-20, wosr 1218 ft; Haynie B-5, 1-14-21, plugged back to 1163 ft; Moss A-15, 1-14-21, wosr 1170 ft; Moss A-17, 1-14-21, rig. Wright Oil Co.'s Groves 3, 12-14-21, wosr 1151 ft.

OUACHITA COUNTY — Buffalo Oil Co.'s Culp 1, 22-15-19, sd 2075 ft. Brewer et al's Curry 1, 32-15-19, wosr 2201 ft. Copenhagen et al's Berg 3, 13-15-17, sd 2193 ft. A. T. Grayson's Reynolds 1, 21-14-17, sd 1756 ft. H. M. Harrell's Ponder A-1, 18-12-17, dr 1250 ft. Humble's Murphy 4, 3-16-15, arr to test 2582 ft. Magnolia's Stout B-1, 28-14-16, dr 3130 ft.

A. S. JOHNSTON DRILLING CORP.
3260 GRANT ST., R. F. D. #1 BOX 628
LONG BEACH, CALIF.

Mr. E. Tompkins,
Reading Iron Co.,
Pacific Mutual Bldg.,
Los Angeles, California

August 26, 1926

My Dear Mr. Tompkins,

Wish to advise you of some of the merits and general satisfaction we have experienced through our handling and work with the Reading Wrought Iron Casing.

First, we believe, that the Reading Casing to be the best that money can buy. Second, that it is the easiest casing to handle, that is, in making up and running it into hole, in that you have no trouble whatever with the threads, which you know to be a great labor and time saving, regardless of the length of casing to be set, you have no parting the threads being uniform.

We have set some very long strings of Reading Casing, in fact, we have set five long strings without a set back, which we believe speaks very well for the threads, joints, and the pipe in general. Have also used 300 feet of 10-inch as washover pipe for 30 days without injuring a thread or joint.

Hoping that you will accept this in the same spirit in which it is given, we beg to remain,

Very truly yours,
A. S. JOHNSTON DRILLING CORP.,

A S Johnston

READING PIPE

GENUINE WROUGHT IRON

READING IRON COMPANY DALLAS, HOUSTON, TULSA, SHREVEPORT, LOS ANGELES **READING, PENNSYLVANIA**

Say you saw it in The OIL WEEKLY

Marine Oil Co.'s Hayes 5-A, 4-16-15, lcn; Hayes 8, 4-16-15, milling cas 2265 ft. Phillips Pet. Co.'s Betty Joyce 19, 33-15-15, dr plug 2693 ft. Standard Oil Co.'s Umsted 5, 32-15-15, dr 2490 ft.

UNION COUNTY—Brown et al's Slaughter 1, 2-17-16, sd 2295 ft. Bondurant et al's Garner 1, 8-18-12, sd 2635 ft. Booth et al's Rowland 1, 8-17-11, coring 2966 ft. Garrett-Modisette Drlg. Co.'s Gregory 1, 10-17-14, pumping 2765 ft. Gulf's Murphy 45, 4-16-15, dk. Grimes Bros.' Williams 2, 8-18-14, wosr 2239 ft; Van-Hook 7-18-14, set 10-in at 160 ft. Imperial O. & G. Co.'s Goodwin 1, 26-17-16, sd 3118 ft. E. M. Jones' Crain 2, 2-17-14, dr 2310 ft; Crain 3, 2-17-14, set 10-in at 151 ft; Crain 4, 2-17-14, lcn. W. R. Keever's Ezell 5, 12-17-15, lcn. Keene & Wolfe's Murphy 6, 9-16-15, dk. Lion O. & R. Co.'s Horn 1, 17-17-13, tested dry at 2369-2644 ft. Laurel O. & G. Co.'s Houston 1, 12-16-16, arr to deepen—depth not known. Lyell et al's Stegall 1, 11-17-15, set 12½-in at 47 ft. Magnolia's Carroll 2, 1-17-14, sd 1500 ft; Laney 3, 8-16-16, dk; Laney 4, 8-16-16, dk; Wilson 7, 17-16-15, arr to set 6⅝-in at 2480 ft; Murphy 8, 8-16-15, cmtd back to 2440 ft. Mountz et al's Pratt 6, 8-18-15, recmtd 6-in at 2146 ft. C. E. Murdock's Murphy 2, 17-16-15, arr to deepen 2754 ft. Murdock et al's Vestal 1, 17-16-15, sd 2561 ft. National Consolidated Pet. Corp.'s Fagg 1, 8-16-16, wosr 2643 ft. Nat. G. & F. Corp.'s Hill B-3, 5-16-15, lcn. J. J. O'Brien's Saxon 1, 16-16-16, sd 2659 ft. Ohio Oil Co.'s Crain 3, 1-17-14, arr to test 2996 ft; Crain 4, 1-17-14, dk; Crain 5, 1-17-14, set 6⅝-in at 3044 ft; Crain 6, 1-17-14, set 10-in at 324 ft; Crain 7, 1-17-14, set 10-in at 205 ft; Goode 1, 2-17-14, set 10-in at 161 ft; Goode 2, 1-17-14, set 10-in at 282 ft; Pumphrey 1, 1-17-14, bld dry at 3000 ft; R. Pumphrey 1, 2-17-14, set 6⅝-in at 3010 ft; R. Pumphrey 2, 2-17-14, dr 1643 ft; R. Pumphrey 3, 2-17-14, rig. Pitcher et al's Arkansas Timber Co. 1, 21-17-11, set 10-in at 355 ft. Pitcher et al's Kinard 1, 17-19-15, dr 163 ft. Rice et al's Newton 1, 13-17-16, sd 3154 ft. Rovenger Oil Corp.'s Harrell 4, 15-17-16, dk; McCain 1, 4-17-14, coring 3064 ft. Sun Oil Co.'s Hays 3, 3-16-15, sd 2275 ft. Standard's Murphy 33, 4-16-15, sd 2585 ft. Wingfield et al's Greer 1, 15-19-13, sd 50 ft. E. N. Wood's Houston 1, 12-16-16, arr to deepen 2558 ft.

OKLAHOMA

T 28n, R 3w, Grant County — Sec 6, Otstot Dev. Co.'s Snyder 1, ne c, sd 4518 ft.

T 27n, R 21w, Harper County—Sec 24, A. F. Koplan Oil Co.'s Selman 1, ne c se, spd and sd.

T 27n, R 15w, Woods County—Sec 20, Sooner State Oil Co. & E. R. Black's Marcum 1, c sw, spd and sd.

T 27n, 5w, Grant County—Sec 18, J. W. Bailey et al's Custard 1, c se, fsh 4605 ft.

T 27n, R 1e, Kay County—Sec 8, Mathews et al, Buessing 1, nw c, cellar.

T 27n, R 1e, Kay County—Sec 28, Hazel Atlas Glass Co.'s Vickery 1, nw c se se nw, lcn.

T 26n, R 4w, Grant County—Sec 34, Sooner State Oil Co.'s Royce 1, sw c nw, sd 550 ft.

T 26n, Rw, Grant County—Sec 16, Markham & Flanagan's Sherrer 1, ne c sw, tools in hole 5369 ft td, D & A.

T 26n, R 2e, Kay County—Sec 32, J. A. Vincent et al's McNeal 1, sw c ne,, sd 2795 ft.

T 25n, R 22w, Harper County—Sec 14, Hoffer Oil Co.'s Cooper 1, nw c se, sd 4182 ft.

T 25n, R 4w, Grant County—Sec 22, Cowden et al's Vallner 2, ne c se ne sw, dr 5550 ft.

T 25n, R 1w, Kay County—Sec 15, Tonkawa Dev Co.'s McDaniels 1, se c, ¶1 3980-88 ft 200 ft oih td 4198 ft, sd.

T 25n, R 1e, Kay County — Sec 10, Miller Brothers' Anderson 1, nw c se, dr 3640 ft.

T 21n, R 1w, Noble County—Sec 7, R. L. Corley's Williams 1, se c ne sw, sd 1920 ft.

Oklahoma Panhandle

T 6n, R 2e, Cimarron County—Sec 24, J. G. Phillips' School Land 1, nw c, td 3905 ft, co and ur 6-in cas.

T 5n, R 2e, Cimmaron County—Sec 22, Sinclair's School Land 1, nw c, dr 4521 ft.

T 5n, R 5e, Cimarron County—Sec 27, Ramsey Brothers' State 1, c nw ne, show 35 bbls, shot 30 qts 4090-4140 ft, td and 681 ft pull 5-in to P B to show.

T 5n, R 6e, Cimarron County—Sec 4, Ramsey 4, Ramsey Pet. Co.'s School Land 1, se c, sd 4265 ft.

T 4n, R 1e, Cimarron County—Sec 34, Ramsey's School Land 1, c se, dr 2136 ft.

T 4n, R 25e, Beaver County—Sec 22, O. H. Bonner et al's Maple 1, c se ne, rig.

T 3n, R 7e, Cimarron County—Sec 25, Gladys Belle Oil Co.'s Israel 1, sw c ne, td 4392 ft, plugging.

T 2n, R 9e, Cimarron County—Sec 2, Fenton, Brookins & Flowers' Smaltz 1, sw c ne ne, spd and sd.

T 2n, R 18e, Texas County—Sec 23, Connelly, Trammell & Danner's Graves 1, ne c sw sw, sd 315 ft.

T 1n, R 15e, Texas County—Sec 26, Hydraulic Oil Co.'s Hitch 1, ne c, sd 600 ft.

T 1n, R 19e, Texas County—Sec 11, Trammell, Connelly & Danner's Tansey 1, se c nw, sd 280 ft.

T 1n, R 18e, Texas County—Sec 11, Three Way Oil Co.'s Price 1, se c nw, show gas 2560-2620 ft, sd 3005 ft.

T 24n, R 17w Woodward County — Sec 32, Otstot Dev Co.'s Simmons 1, se c sd 1500 ft.

T 24n, R 6w, Garfield County—Sec 9, Pulse & Beamer's White 1, se c nw, sd 4720 ft.

T 24n, R 3w, Garfield County—Sec 14, Sagar Oil Co.'s Garsarch 1, se c, dr 3090 ft.

T 23n, R 16w, Major County—Sec 4, Henry London' Parker 1, ne c nw, sd 1150 ft.

T 22n, R 5w, Garfield County—Sec 3, Ashby & Barr's Swinery 1, nw c, sd 740 ft.

T 21n, R 25w, Ellis County—Sec 9, Oklahoma Northern Oil Co.'s 1, c se nw, cas stuck 300 ft.

T 21n, R 21w, Woodward County — Sec 25, Sharon et al's Elmore 1, sw c, sd 2778 ft.

T 21n, R 4w, Garfield County—Sec 12, Beopple et al's Schriver 1, c e l sw sw ne, sd 1850 ft.

T 20n, R 5w, Garfield County—Sec 2, Sinclair's Fee 1, sw c ne, fsh tools 6254 ft.

T 20n, R 4w, Garfield County—Sec 9, Marland Oil Co.'s Looman 1, ne c se, dr 5665 ft.

T 20n, R 4w, Garfield County—Sec 12, Marland Oil Co's Miller 1, sw c, sd 4586 ft.

T 19n, R 4w, Logan County—Sec 8, Champlin Ref. Co.'s Musgrove 1, se c sw, dr 2915 ft. Sec 33, Bryan & Emery's 1, nw c se, td 4504 ft.

T 18n, R 15w, Dewey County—Sec 9, Huckelby & McCoy's Perfect 1, ne c se, 3274 ft.

T 18n, R 4w, Logan County—Sec 11, Welch, Acton & Brown's Hall 1, ne c se, top pay 4748-59 ft, swab 130 bbls, sd 4785 ft.

T 18n, R 3w, Logan County—Sec 33, Haley & Pioneer Pet. Co.'s Quier 1, sw c se, dr by cas 3690 ft.

T 17n, R 1e, Logan County—Sec 20, T. B. Slick's Signs 1, nw c sw, sd 5067 ft, tools moved out.

T 17n, R 1e, Logan—Sec 28, T. B. Slick's Berry 1, sw c se, sand 4658-61 ft, 2800 ft oih, show wtr, ur 6-in 5194 ft.

T 16n, R 7w, Kingfisher County—Sec 6, Pet. Eng. Core Drlg. Co.'s Campbell 1, c nw se, rig.

T 16n, R 5w, Kingfisher County—Sec 26, Galt Brown Oil Co.'s Johnson 1, c nw, dr 4025 ft.

T 16n, R 1w, Logan County—Sec 28, Blackford O&G Co.'s Lair 1, c s l n½ se, sd 1675 ft.

T 15n, R 1w, Logan County—Sec 12, Bu Vi Bar Pet. Co.'s Kirkpatrick 1, c sw, dr 4060 ft.

T 14n, R 6w, Canadian County—Sec 9, A. D. Spears' Piatt 1, se c ne, sd 3223 ft.

T 13n, R 10w, Oklahoma County—Sec 18, Carrell Oil Corp.'s North 1, ne c, sd 1500 ft.

T 13n, R 3w, Oklahoma County—Sec 18, Slick & Bailey's Lufkin 1, c ne se, td 3750 ft, rust.

T 12n, R 3w, Oklahoma County—Sec 15, Cromwell O&G Co.'s Thompson 1, sw c ne ne, dr 6490 ft.

T 10n, R 6w, Canadian County—Sec 1, J. V. Bailey's Robinson 1, c ne nw, spd and sd.

T 27n, R 9e, Osage County—Sec 7, C. B. Peters' 1, ne c se, dr 1620 ft.

T 26n, R 8e, Osage County—Sec 13, Stephenson, Henry & Rock's 1, sw c nw sw, rig.

T 25n, R 7e, Osage County—Sec 8, I. T. I. O. Co.'s 1, se c ne, lcn. Sec 22, George Parker 1, c s l ne, burgess 2660-80 ft, shot 30 qts, 15 bbls, testing.

T 23n, R 10e, Osage County—Sec 7, Sheeders O&G Co.'s 1, c se, fsh tools 2340 ft, td.

T 21n, R 6e, Pawnee County—Sec 16, F. R. Billingslea & 101 Ranch Co.'s School Land 2, nw c ne se, dr 3285 ft.

T 18n, R 3e, Payne County—Sec 32, Garber, Pulse & Gloyd's Widows 1, ne c se nw, sd 1200 ft.

T 17n, R 3e, Lincoln County—Sec 20, Willis O&G Co.'s Gunn 1, nw c se, td 4677 ft, water, sd.

T 14n, R 7e, Creek County—Sec 16, Bu Vi Bar Pet. Co.'s Nero 1, c se ne, dr 360 ft, new hole.

T 13n, R 4e, Lincoln County—Sec 16, Bu Vi Bar Pet. Co.'s School Land 1, c se ne, sd 4500 ft.

T 12n, R 8e, Okfuskee County—Sec 34, Transcontinental Oil Co.'s Knight 1, nw c ne nw, ur 8-in 2848 ft.

T 19n, R 10e, Tulsa County—Sec 24, Holmes et al's Ragen 1, nw c ne se, sd 1968 ft.

T 19n, R 11e, Tulsa County—Sec 33, Anadarko Western Oil Co.'s Hodge 1, nw c ne nw sw, fsh 2525 ft.

T 17n, R 13e, Tulsa County—Sec 1, E. A. Hawley's Taylor 1, se c ne, spd and sd.

T 16n, R 10e, Creek County—Sec 35, Murta & Cole's Fore 1, ne c sw, dr 2334 ft.

T 15n, R 9e, Creek County—Sec 33, C. G. Tibbens' Marshall 1, sw c se sw, machine.

T 14n, R 9e, Creek County — Sec 1, L. C Wheeler & King's Morton 1, se c nw, lcn.

T 14n, R 11e, Okmulgee County—Sec 19, White Eagle O&R Co.'s Bugg 2, nw c ne se, dr 2300 ft.

T 13n, R 9e, Okfuskee County—Sec 21, Barnsdall Oil Corp.'s Self 1, sw c se ne, setg cas 3173 ft.

T 12n, R 10e, Okfuskee County—Sec 8, Blakely et al's M. Yarhola, sw c se nw, dr 3157 ft.

T 11n, R 10e, Okfuskee County—Sec 4, Moose & Daniels' Stidham 1, sw c, nw, sd 622 ft.

T 19n, R 15e, Wagoner County—Sec 11, J. H. Winters' Lynch 1, sw c nw nw, dr 1100 ft.

T 18n, R 17e, Wagoner County—Sec 1, Towner & White's J. Lucky 1, sw c se nw, hfw 790-820 ft, td 830 ft, abnd.

T 15n, R 13e, Okmulgee County—Sec 6, Farrell & Lavery's Scott 1, nw c se, ¶33, 100 lbs rp 2093-2102 ft.

T 15n, R 18e, Muskogee County—Sec 12, C. F. Finefield's Jobe 1, nw c se, sd 1252 ft.

T 11n, R 13e, Okmulgee County—Sec 27, G. N. Buzzard et al's Thompson 1, nw c ne ne, dr 2060 ft.

T 13n, R 17e, Muskogee County—Sec 34, Elk Dr. Co.'s McKee 1, c s l se se se, sd 160 ft.

T 13n, R 19e, Muskogee County—Sec 4, W. R. Sommerville's Carver 1, ne c se, ¶2 898-912 ft, show oil 1495-1513 ft, sd 1620 ft.

T 9n, R 16e, Pittsburg County—Sec 32, Pattison et al's Smith 1, ne c sw se, dr 3400 ft.

T 9n, R 18e, Haskell County—Sec 10, Marion Oil Co.'s Sanders 1, nw c ne sw, 1800 ft, ¶2, dr 2200 ft.

T 5n, R 18e, Latimer County—Sec 15, Limestone O&G Co.'s Murray 1, sw c, sd 1505 ft.

T 11n, R 2e, Pottawatomie County — Sec 22, Wilcox O&G Co.'s Hollis 1, sw c, dr 5060 ft.

T 10n, R 2w, Cleveland County—Sec 22, Cromwell & Franklin's Donovan 1, c sw, sd 4706 ft.

T 10n, R 3e, Pottawatomie County—Sec 12, Sikes, Kilgore & Shaffer O&R Co.'s Ives 1, c se se, cmtg 6-in 4135 ft.

T 10n, R 4e, Pottawatomie County—Sec 28, Central National Oil Co.'s Toney 1, sw c, dr 3863 ft.

T 10n, R 5e, Pottawatomie County—Sec 16, Clark, Edwards et al's School Land 1, ne c sw, cmtg cave 4473 ft.

T 10n, R 5e, Seminole County—Sec 26, Sory & Swartz's Turner 1, se c sw, se, top Wilcox 4647 ft, td 4650 ft, hfw, D & A.

T 10n, R 7e, Seminole County—Sec 21, Gypsy Oil Co.'s Soloman 1, se c ne, ts 3730 ft, td 3734 ft, flowing 50 bbls per day pinched.

T 9n, R 1w, Cleveland County—Sec 7, Galt Brown Oil Co.'s Alexander 1, c nw, dr 4343 ft.

T 9n, R 2e, Pottawatomie County—Sec 2, McCulloch's Scott 1, ne c sw, td 5134 ft, D & A.

T 9n, R 4e, Pottawatomie County—Sec 27, W. B. Pine's Hamblin 1, ne c se se, td 4692 ft, D & A.

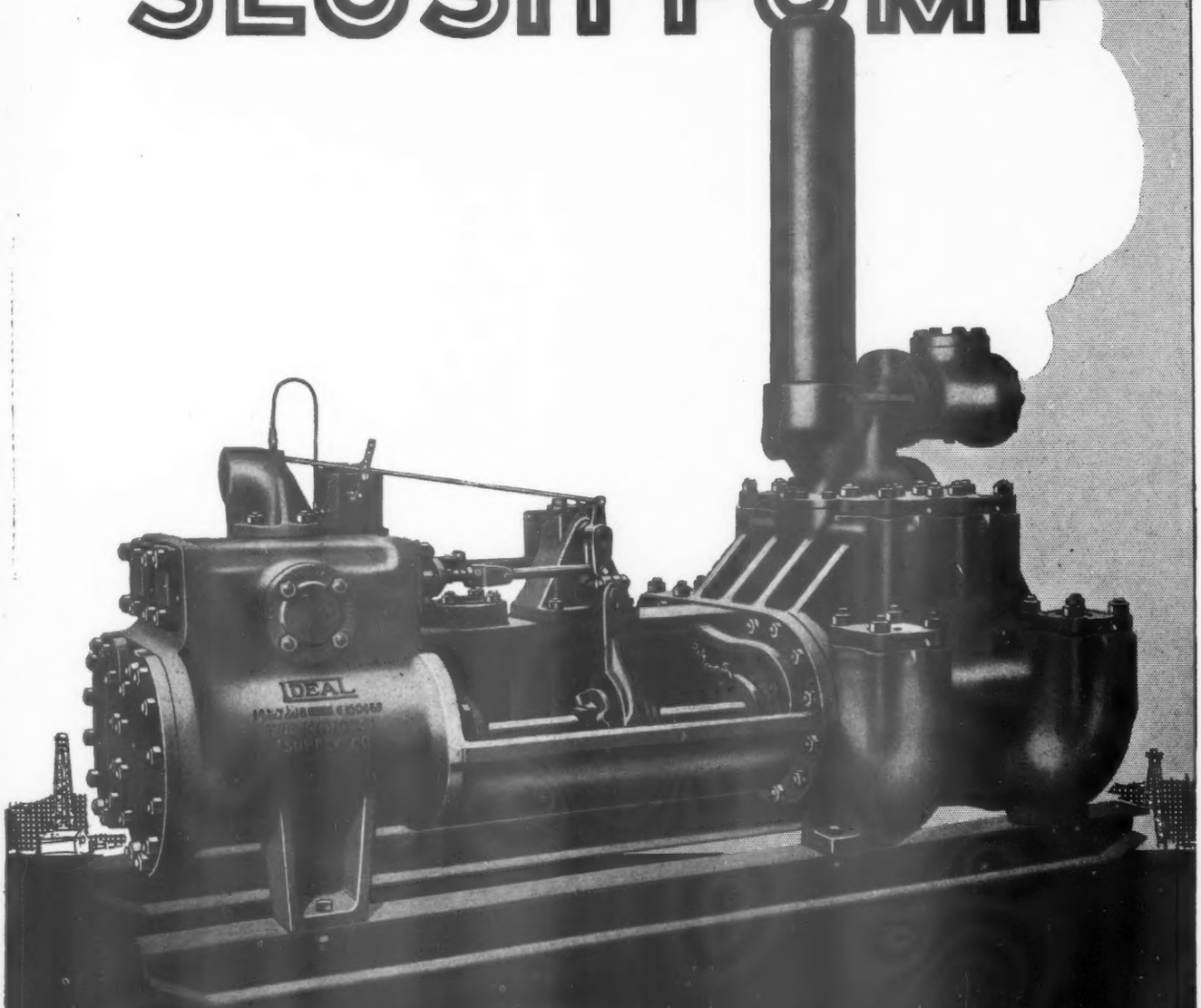
T 9n, R 5e, Pottawatomie County—Sec 32, Independent O&G Co.'s Harber 1, ne c, ts 4835 ft, td 4853 ft, 2500 ft hfw, D & A.

T 9n, R 7e, Seminole County—Sec 15, Pure Oil Co.'s Jonah 1, nw c ne, ts 3493 ft, 10 bbls oil, td 3516 ft, pb 3510 ft, sd.

IDEAL

14½ X 7½ X 18

DUPLEX SLUSH PUMP



THE NATIONAL SUPPLY COMPANIES

Say you saw it in The OIL WEEKLY

T 9n, R 8e, Seminole County—Sec 3, Empire G&F Co.'s Butler 1, sw c se, td 3508 ft, td 3560 ft water, pb to 3525 ft, ¶10 and 10 bbls oil per day.

T 8n, R 1e, Cleveland County—Sec 20, Mid-Cont. Pet. Corp.'s Woodrow 1, sw c nw, 4725 ft td, D & A.

T 8n, R 2e, Pottawatomie County—Sec 24, Superior Oil Corp.'s Jones 1, sw c nw ne, dr 4020 ft.

T 8n, R 5e, Seminole County—Sec 14, Barnsdall Oil Corp.'s Fife 1, ne c nw, dr 4262 ft, 1500 oih.

T 8n, R 5e, Pottawatomie County—Sec 16, I. T. I. Co.'s School Land 1, se c sw, sd 4096 ft.

T 7n, R 1w, Cleveland County—Sec 15, Sooner Oil Co.'s Vandeer 1, ne c nw sw, cmtd 8-in 2995 ft, sd.

T 7n, R 6e, Seminole County—Sec 7, Simon & Beam, Palmer 1, ne c nw ne, rig. Sec 13, Snowden & McSweeney's Tiger 1, nw c, ts 4315 ft, td 4315 ft, 6-in, flow 40 bbls hr., est 200 bbls 5 hrs.

T 7n, R 7e, Seminole County—Sec 5, Mid-Cont. Pet. Corp.'s Smith 1, nw c ne, top Wilcox 4443 ft, td 4444 ft, est 60 bbls per hour shut in. Sec 32, I. T. I. O. Co.'s Marshall 1, nw c sw, fsh 4025 ft.

T 7n, R 8e, Hughes County—Sec 21, Jarvis & Holmes' Street 1, nw c se nw, 3090-3100 ft, 300 ft oih 3113-28 ft, 1500 ft oih, dr 3575 ft.

T 6n, R 1w, Cleveland County—Sec 11, Magnolia's Lefore 1, se c sw, 4194 ft, D&A.

T 6n, R 2e, Pottawatomie County—Sec 10, Davis, Detrick et al's McGahey 1, se c nw, sd 4988 ft.

T 6n, R 6e, Seminole County—Sec 1, T. B. Slick's Moore 1, sw c ne sw, show oil and gas 2408-42 ft, 900 ft oih, td 2460 ft, set 6-in cas.

T 6n, R 7e, Seminole County—Sec 5, Magnolia Pet. Co.'s Vierson 1, se c nw, fsh 3315 ft.

T 6n, R 8e, Seminole County—Sec 18, Carter Oil Co.'s Phillips 1, nw c ne nw, owd, td 3825-3936 ft, ½ bailer oil per hour, fshg.

T 5n, R 9e, Hughes County—Sec 20, Noble O&G Co.'s et al's Wicket 1, se c, td 285 ft, sd.

T 9n, R 22w, Beckham County—Sec 32, O&H Pet. Co.'s Barnes 1, nw c ne, owd, fsh 2560 ft, small show oil 2210 ft.

T 9n, R 5w, Grady County—Sec 13, Remington et al's Fulton 1, sw c ne, sd 720 ft, td.

T 8n, R 23w, Beckham County—Sec 5, Prince Bros.' Martin & Atlantic 1, c sw nw, co 2526 ft.

T 7n, R 22w, Greer County—Sec 16, Magnolia's Chiney 1, ne c, dr 2930 ft.

T 7n, R 5w, Grady County—Sec 13, Bedman et al's Kemp 1, c sw ne, sd 2400 ft.

T 6n, R 10 w, Caddo County—Sec 22, Engl.sh Drlg. Co.'s Jacobs 1, nw c se, dr 3180 ft

T 6n, R 12w, Caddo County—Sec 29, W. J. Hartley's Gilbreath 1, se c nw se, owd, sd 3394 ft.

T 5n, R 7w, Grady County—Sec 7, Nichols & Page Drake 1, c e l se, sd 1900 ft. Sec 16, John Graham's Steelman 1, c n l nw nw, abn 3201 ft.

T 2n, R 10w, Comanche County—Sec 10, Danciger O&R Co.'s Skitler 1, ne c se, sd 2019 ft.

T 5n, R 7e, Pontotoc County—Sec 36, Shaffer O&R Co.'s Gilcrease 1, nwc ne, dr 1860 ft.

T 5n, R 4e, Pontotoc County—Sec 12, Gillespie et al's Fleming 1, sw c se, swab 50 bbls 2043-54 ft', 25 bbls at 2556-57 ft, hfw in Wilcox 2838-52 ft, pb 2550 ft, sd.

T 3n, R 9e, Hughes County—Sec 20, Noble O&G Co.'s Wicket 1, se c, sd 285 ft.

T 4n, R 1e, Garvin County—Sec 15, Dixie Oil Co.'s Perkins 1, se c nw, dr 4065 ft.

T 4n, R 3e, Garvin County—Sec 10, Garland Oil Co.'s Strickland 1, sw c nw sw, co 2650 ft.

T 4n, R 4e, Pontotoc County—Sec 10, Marland Oil Co.'s Lawrence 1, c sw se, dr 800 ft.

T 4n, R 6e, Pontotoc County—Sec 35, Bowles et al's Rayborn 1, sw c se, sd 1320 ft.

T 4n, R 7e, Pontotoc County—Sec 14, Henry et al's Johnson 1, ne c sw, dr 1090 ft. Sec 25, Ada Cement Co.'s Patter 1, nw c, dr 845 ft.

T 3n, R 1e, Garvin County—Sec 12, Magnolia Pet. Co.'s Vaughn 1, nw c sw nw, dr 4390 ft.

T 1n, R 2e, Murray County—Sec 17, Revels & McGee M. Wolfe 1, nw c, sd 125 ft.

T 1n, R 8e, Coal County—Sec 35, W. E. McGraw et al's Patton 1, sw c se ne, sd 935 ft.

T 1s, R 2w, Carter County—Sec 19, McGahee's Morris 1, sw c nw ne, 3463 ft, D&A.

T 1s, R 2e, Murray County—Sec 27, Thompson Oil Corp.'s Freeman 1, se c, rig.

T 4s, R 1w, Carter County—Sec 33, Magnolia's Simpson 1, nw c ne nw, dr 4340 ft.

T 4s, R 2w, Carter County—Sec 13, Roxana Pet. Corp.'s Sarasota 1, se c, sd 2260 ft.

T 5e, R 3w, Carter County—Sec 2, Roxana's Frazier 1, sw c ne, sd 3445 ft.

T 5s, R 4e, Marshall County—Sec 11, Bilbo et al's Chapman 1, ne c nw ne, sd 380 ft.

T 5s, R 7e, Bryan County—Sec 26, Magnolia's Marshall 1, nw c sw nw, dr 2130 ft.

T 7s, R 3e, Love County—Sec 7, Magnolia Pet. Co.'s Askew 1, nw c sw ne, dr 2565 ft.

KANSAS

BARBER COUNTY—T 30s, R 14w, Howland et al's Pickens 1, owd, nec nw ne, sec 27, drlg 2095 ft. T 31s, R 12w, Merriman et al's Winters 1, c e½, sec 17, fishg 2570 ft. T 33s, R 12w, Schaffer et al's Boggs 1, c sw, sec 19, dr 3710 ft. T 33s, R 13w, Schaffer et al's Carter 1, c se se, sec 2, dr 2820 ft.

BARTON COUNTY—T 18s, R 12w, Huffine & Crane's Everleigh 1, c sw sw, sec 6, dr 4369 ft. T 19s, R 11w, Huffine et al's Smith 1, nec se ne, sec 17, fishg 5090 ft. T 20s, R 13w, Everett & Wiley's Ward 1, nwc sw, sec 12, cmt 3940 ft.

BUTLER COUNTY—T 25s, R 4e, Wichita Drlg. Co.'s Joseph 1, nec se nw, sec 17, drlg 2165 ft. T 27s, R 3e, La Rob Oil Co.'s Baysinger 1, nec sw, sec 24, rig. T 27s, R 5e, Cress, Frank et al's Bryson 1, nec, sec 26, spd & sd. T 29s, R 4e, E. Wilcox et al's Holcomb 1, nec se nw, sec 21, sd 1456 ft.

CHASE COUNTY—T 21s, R 7e, Greener, Fowler et al's Carson 1, nec, sec 9, sd 750 ft.

CHAUTAUQUA COUNTY—T 32s, R 8e, Roth & Faurot's Hamil 1, nwc sw nw, sec 15, lcn.

CLARK COUNTY—T 31s, R 23w, Walker & Walner's Mitchell 1, swc ne, sec 16, sd 420 ft.

CLOUD COUNTY—T 6s, R 4w, Concordia Oil Co.'s Murdock 1, sec, sec 6, ur 3590 ft.

COFFEY COUNTY—T 22s, R 15e, Garland et al's Goff 1, sec sw se, sec 9, lcn; Crooks et al's Douglas 1, nec se, sec 11, sd 450 ft.

COWLEY COUNTY—T 30s, R 3e, Vickers Pet. Co.'s Daniels 1, nwc ne, sec 3, dr 1650 ft; T 30s, R 6e, Allison & Fitzwilliams' Manley 1, nec nw se, sec 20, sd 300 ft; T 31s, R 4e, Brinn et al's Hughes 1, nwc sw, sec 20, sd 3349 ft; T 33s, R 4e, Roth & Faurot's Adams 1, sec, sec 32, ts 1900 ft, show gas.

DICKINSON COUNTY—T 16s, R 4e, Skow & Ritchey's Will 1, c nw nw, sec 2, lcn; Frank et al's Kutler 1, swc se, sec 15, d&a 2658 ft; Loy et al's Sherman 1, nwc se, sec 24, dr 2251 ft; Harwood & Winters' Uteck 1, swc se nw, sec 35, dr 1600 ft.

ELK COUNTY—T 29s, R 12e, Elmwood Oil Co.'s & Phoenix Oil Co.'s Flack 1, sec, sec 6, dr 1710 ft; T 31s, R 11e, Roth & Faurot's Elk Falls Bank 1, nwc sw, sec 3, dr 2015 ft.

ELLIS COUNTY—T 13s, R 16w, Tatlock et al's Leiker 1, nwc ne ne, sec 26, dr 2865 ft; Mid West Ref. Co.'s Reidell 19, nwc sw se, sec 27, td 3870 ft, pb to 3243 ft, shot 20 qt, 5 bbl d&a.

ELLSWORTH COUNTY—T 15s, R 10w, Valerious O. & G. Co. et al's Maximer 1, c nw, sec 9, dr 3178 ft; T 16s, R 19w, Phil-Mac Oil Co.'s Gregory 1, c sw, sec 24, dr 3387 ft.

FRANKLIN COUNTY—T 16s, R 18e, Smith, Thrice & Fisher's Owens No. 1, cel e½ e½, sec 17, sd 1450 ft; T 17s, R 17e, Omar O. & R. Co.'s Bush 1, sec sw, sec 25, lcn.

GEARY COUNTY—T 10s, R 5e, Brinkley et al's Fawley 1, nec nw ne, sec 16, sd 2502 ft.

GREENWOOD COUNTY—T 23s, R 12e, Jennings et al's Hollis 1, nwc, sec 5, sd 2415 ft; T 25s, R 10e, Smalley & Bement O. Corp.'s Rockhill 1, nwc ne, sec 12, fsh 1750 ft; T 28s, R 12e, Swanson et al's Hayes 1, sec nw ne, sec 1, sd 1600 ft.

GRAHAM COUNTY—T Ts, R 25w, Gulf Coast drlg. Co.'s St. John 1, owd, swc, nw se, sec 27, dr 3290 ft.

JEFFERSON COUNTY—T 9s, R 19e, Northern Counties Oil Co.'s Edwards 1, sec nw nw, sec 13, sd 2405 ft.

LABETTE COUNTY—T 33s, R 17e, Cowell et al's Hornbeck 1, swc ne sw, sec 1, sd 1375 ft; T 35s, R 20e, Wantland et al's Lipps 1, sec nw sw, sec 5, sd 910 ft.

LOGAN COUNTY—T 14s, R 33w, Coon et al's Andrews 1, owd, nwc ne nw, sec 14, sd 3885 ft.

LYON COUNTY—T 21s, R 10e, Hawks et al's Schroeder 1, sec sw, sec 14, lcn.

MARSHALL COUNTY—T 4s, R 7e, Marshall Oil Synd.'s Finn 1, nwc ne ne, sec 4, dr 2485.

MARION COUNTY—T 17n, R 4e, Givins et al's Ucker 1, swc ne, sec 31, skid rig; T 18s, R 4e, Skow et al's Melcher 1, c ne se, sec 20, sd 1825 ft; T 19s, R 4e, Reed et al's Reed 1, nwc, sec 17, td 2841 ft, pb to 2406 ft, sd; Empire O. & R. Co.'s Schlothour 1, nec sw ne, sec 9, tc 2270-74 ft, d&a 2673 ft; T 21s, R 1e, Sun Ray Oil Co.'s Lehrman 1, swc ne se, sec 1, sd 1965 ft.

McPHERSON COUNTY—T 17s, R 3w, La Mar et al's Lamar 1, sec, sec 1, fsh 2960 ft; T 19s, R 2w, Merriman et al's Clark 1, c ne nw, sec 8, dr 3230 ft; T 19s, R 3w, Mid Kansas' Jones 1, swc ne, sec 26, d&a 3635 ft; T 20s, R 3w, Polar Oil Co.'s Dary 1, c nw, sec 20, sp & sd.

MEAD COUNTY—T 33s, R 28w, Blackwell O. & G. Co.'s Lilly 1, c se, sec 9, ur 3185 ft.

MONTGOMERY COUNTY—T 31s, R 14e, Ramler et al's Faler 1, cnl ne ne, sec 31, sd 1085 ft.

MORRIS COUNTY—T 14s, R 7e, Klein et al's Barber 1, sec nw, sec 32, rig; T 16s, R 9e, Lambert et al's Southard 1, swc se, sec 22, lcn.

NEMEHA COUNTY—T 3s, R 11e, Nemeha O. & G. Co.'s Meyers 1, nwc, sec 19, sd 3050 ft.

OSBORNE COUNTY—T 9s, R 15w, Davis et al's Prather 1, sec sw, sec 30, dr 813 ft.

OSAGE COUNTY—T 15s, R 15e, Barber et al's Lease 1, c se se, sec 3, sd 260 ft; T 15s, R 16e, West et al's Bailey 1, swc ne, sec 27, sd 800 ft; T 17s, R 17e, Mull Vit Dev. Co.'s Neil 1, nwc ne sw ne, sec 8, sd 3736 ft.

POTTAWATOMIE COUNTY—T 9s, R 12e, Crawford et al's Steward 1, cnl se se, sec 17, rig; Crawford et al's Bratchbar 1, swc se sw, sec 31, rig. T 10s, R 12e, Crawford et al's St. Mary 1, swc, sec 11, sd 2920 ft.

RENO COUNTY—T 22s, R 4w, Danciger et al's Williams 1, nec sw se, sec 6, rig.

RILEY COUNTY—T 10s, R 7e, Youker et al's Theirer 1, nwc, sec 20, dr 3021 ft.

ROOKS COUNTY—T 9s, R 16w, Keys Pet. Co.'s Rathburn 1, nec sw, sec 14, sd 800 ft. T 10s, R 16w, Derby Oil Co.'s Kruse 1, nec nw ne, sec 3, sd 2930 ft. Streeter & Stearns' Mattison 1, c nw, sec 28, dr 1967 ft.

RUSH COUNTY—T 17s, R 17w, Valerious O. & G. Co.'s Schreverman 1, c nw, sec 27, sp & sd.

SALINE COUNTY—T 15s, R 2w, Menter O. & G. Co.'s Muir 1, swc, sec 17, ur 2695 ft.

STAFFORD COUNTY—T 21s, R 11w, Harper et al's Siffers 1, owd, nwc sw ne, sec 23, sd 2936 ft.

STEPHENS COUNTY—T 33s, R 37w, Independent O. & G. Co.'s Jones 1, c sw, sec 31, td 3505 ft.

SUMNER COUNTY—T 33s, R 3w, Otstot et al's Bartlow 1, sec, sec 22, sd 1860 ft. T 34s, R 2w, Gypsy Oil Co.'s Douglas 1, nec se nw, sec 23, ts 4493-4499 ft, 16 bbl per hour. T 34s, R 3w, Jarvis et al's Wenrich 1, sec sw, sec 4, sd 3570 ft. T 34s, R 4w, Jarvis et al's Wycoff 1, swc nw, sec 11, sd 3212 ft. T 35s, R 1e, Otstot et al's Volker 1, nwc ne, sec 9, rig.

WABUNSEE COUNTY—T 12s, R 11e, Empire O. & G. Co.'s Schwalm 1, sec, sec 19, fsh 3320 ft. T 13s, R 12e, Williams et al's Henderson 1, nec sw ne, sec 15, sd 3600 ft.

WOODSON COUNTY—T 25s, R 14e, Howard et al's Riley 1, nwc sw, sec 31, lcn.

NORTHERN CALIFORNIA

Company, Well and Location	Initial Production Bbls.	Depth
McFARLAND—		
Superior Oil Co., Smith 1, 11-26-27..	*	3460

KERN COUNTY

BAKERSFIELD—Pacific Eastern Prod. Co.'s Union Avenue 1, dr 4806 ft.

BELRIDGE—Zurich Oil Co.'s 1, 18-28-22, 8¼-in cas cmt 1870 ft, td 2085 ft.

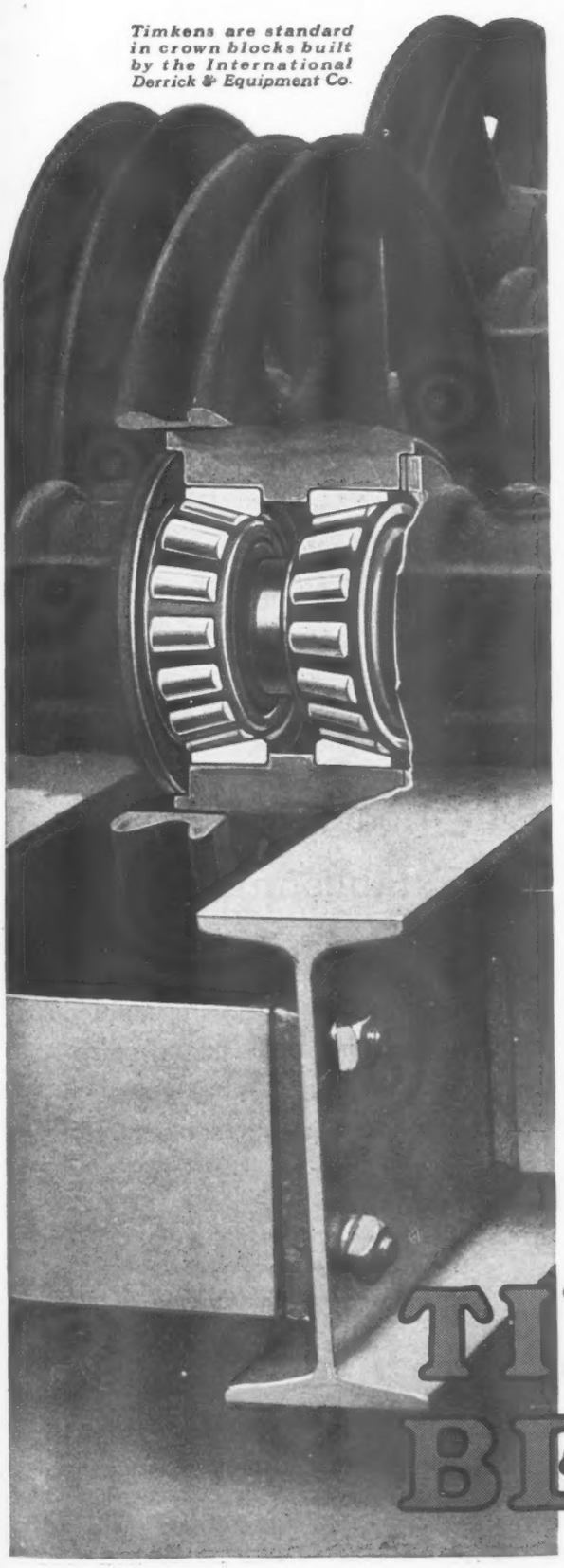
BUTTONWILLOW—Milham Explo. Co.'s Kern 2, rigging up. McAdams, et al's 1, 26-29-23, dr 1875 ft.

COMANCHE POINT—Kern 29 Oil Co.'s 1, 29-31-30, sd 2450 ft.

DELANO—North American Cons. Oil Co.'s 1, fsh 3670 ft.

DEVILS DEN—Midway Northern Oil Co.'s

Timken Bearings—the Oil Field Standard



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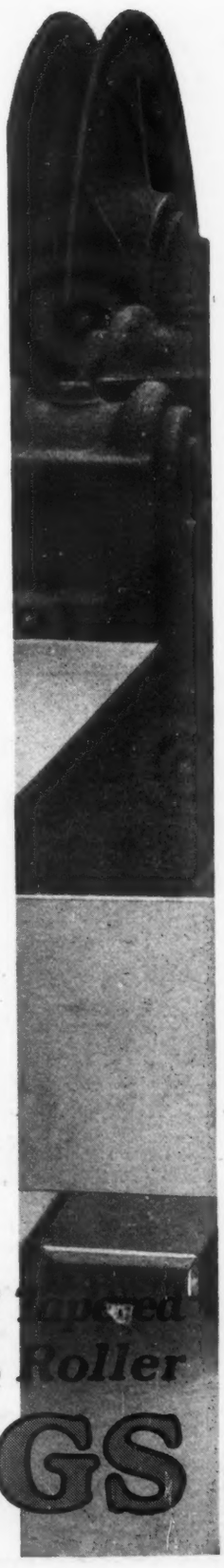
CANTON, OHIO



TIMKEN Tapered Roller BEARINGS

1, 25-25-18, fsh 2440 ft. R. H. Sayers' 1, 25-25-18, sd 1475 ft.

EDISON—General Pet. Corp.'s Kerwin 1, 5-30-29, making production test 4006 ft oil sand.

FRUITVALE—Pacific Eastern Prod. Co.'s 1, 21-29-27, dr 3535 ft.

GREENFIELD—Mays & Valencia's 1, 31-30-28, rig.

GOULD HILLS—Bomke & Ball's 1, 12-29-20, dr 1358 ft. California-Kentucky Oil Co.'s 1, 8-29-21, sd 1622 ft. Cymric Oil Co.'s 1, 36-28-20, dr 370 ft. Herbert Moore's 1, 11-29-20, dr 380 ft. Jackson & Chamberlain's 1, 36-29-20, rigging rotary.

McFARLAND—Superior Oil Co.'s Smith 1, 11-26-27, abn 3460 ft.

McKITTRICK—Electric Pet. Co.'s 1, 34-30-22, sd 1680 ft. McKittrick Hills Oil Co.'s 1, 18-30-22, sd 3250 ft. Ozena Oil Co.'s 1, 27-29-21, co 1350 ft, td 1770 ft.

MON BLUFF—Miocene Oil Co.'s 1, 34-27-28, rig. Shell's Glide 1, dr 3475 ft. Union's Tribe 1, 28-27-28, 10-in cas cmt 1725 ft, td 1781 ft.

NORTH POSO CREEK — General Pet. Corp.'s Glide 1, 21-27-28, completed as 500-barrel producer 1738 ft. Calif. Pet. Corp.'s Lehman 2, 7-28-27, dr oil sand 2050 ft; Lehman 3, 6-28-27, rig; Lehman 4, rig. Bruce Frame's Dominion 1, 18-28-27, dr 1900 ft.

SHALE HILLS—Huntington & Hawthorne's 1, 35-26-18, sd 600 ft. Oildale Oil Co.'s 1, 13-27-18, sd 560 ft.

SUNSET—Fresno-Sunmaid Oil Co.'s 1, 16-11-24, sd 4200 ft.

TEMBLOR—Fortuna Oil Co.'s 1, 28-32-13, sd 2660 ft. Salegna Investment Co.'s 1, 36-29-20, dr 355 ft.

TEHACHAPI-MOJAVE—C. R. Asmussen's 1, 23-11-11, sd 1500 ft. Crusaders Oil Co.'s 1, 21-10-10, testing 6¼-in cas 2255 ft, td 2367 ft. John B. Harding's 1, 5-10-10, sd 1050 ft.

SANTA BARBARA COUNTY

BUELTON — Buttram Bros.' Odin 1, dr 1576 ft.

GOLETA—Barnsdall Oil Co.'s Edward 2, dr 1234 ft. California-American Oil Co.'s Baron 1, dr 1615 ft. Graham-Loftus Oil Co.'s Orella 1, sd 1595 ft. J. J. Rekar's La Patera 1, sd 1810 ft.

ORCUTT—G. O. Gorham's 1, 33-10-34, lcn.

SANTA YNEZ—San Marcos Oil Synd.'s 1, dr 3600 ft.

SANTA BARBARA—Channell Oil & Dev. Co.'s 1, dr 6000 ft. Pet. Exploration Co.'s 1, dr 825 ft.

SUMMERLAND — Summerland Oil Co.'s Becker 1, trying to locate water 3030 ft.

VENTURA COUNTY

CAMARILLO—Standard's Camarillo 1, sdtr dr pipe 5525 ft, td 5720 ft.

FILLMORE—Sespe Oil Co.'s 1, will resume drilling.

HOPPER CANYON—R. J. Bishop's 1, 35-6-19, changing to cable tools 200 ft.

MOORPARK—E. A. Parkford's Lloyd 1, rigging rotary 4000 ft. Shell's Berylwood 2, sr 5950 ft.

RINCON—Bankline Oil Co.'s Permit 1, lcn. Chanslor-Canfield Midway Oil Co.'s Hobson 1A, co 6685 ft, td 7002 ft; Hobson 1B, dr out cmt 5440 ft, td 5738 ft; Hobson C1, dr 2115 ft; Hobson C2, dr 2150 ft; Hobson C3, dr 1065 ft; Hobson C4, lcn. General Pet. Corp.'s Ferguson 1, lcn; Hobson 1A, dr 515 ft; Thomson 1, rigging rotary. Miley Oil Co.'s H. & H. 1, dr 2222 ft; H. & H. 2, dr 1250 ft; H. & H. 3, rig. Montecito Oil Producers' Cota 1, dr 3555 ft. Pan American Pet. Co.'s State 1, trying to locate water, td 3220 ft; State 2, dr 1400 ft; Hobson Fee 1, dr 2626 ft; Hobson Fee 2, dr 2378 ft; Hobson Fee 3, oil sand, 13⅜-in cas cmt 2535 ft; Hobson Fee 4, dr 2140 ft; Hobson Fee 5, lcn. Pet. Explo Co.'s 1, dr 1500 ft. Montecito Oil Producer's Cota 1, dr 3541 ft.

SANTA PAULA—W. W. Bryant's 1, pumping 15 bbls heavy oil, td 1590 ft.

STRATHERN — Shell's Strathern 1, dr 1011 ft.

SATICOY—Standard's Saticoy 1, dr 1126 ft.

SULPHUR MOUNTAIN—Bradford & Geis' 1, 21-4-22, dr 2175 ft.

SOUTH MOUNTAIN — Ring Pet. Corp.'s Converse 1, sd 3950 ft.

SQUAW FLATS—Border Oil Co.'s 1, 5-5-17, sd 550 ft.

TIMBER CANYON—San Pedro-Point Fermin Synd.'s 13-4-21, dr 314 ft.

VENTURA—Associated's Dabney-Lloyd 1, co 6915 ft. Star Pet. Corp.'s Canet 1A, dr 3959 ft.

MISCELLANEOUS

KINGS COUNTY—Associated's 1, 12-23-18, sd 2045 ft. Bolsa Chica Oil Co.'s 1, 30-23-19, sd 3500 ft. General Pet. Corp.'s 2, 22-26-18, dr 5384 ft. Milham Explo. Co.'s 1, 2-22-17, dr 6075 ft. Monocline Dev. Co.'s 1, 7-21-21, sd 4310 ft. Hugh McPhail's 1, 13-24-18, plug 1960 ft, td 2090 ft, dr out. South Coalinga Oil Co.'s 1, 35-24-19, 8¼-in cas cmt 2890 ft, testing, td 2920 ft.

MADERA COUNTY—Fort Wayne Madera Synd.'s 1, 22-10-17, fsh for dr pipe 2255 ft.

SAN LUIS OBISPO COUNTY — Liberty Midway Oil Co.'s 1, 5-32-13, dr 3125 ft. Miley Explo. Co.'s 1, 15-29-17, dr 1715 ft. Paso Robles Oil Co.'s 1, 34-27-13, sd 1575 ft. Richfield Oil Co.'s 1, 10-29-17, dr 2477 ft. San Luis Synd.'s 1, 29-31-13, dr 1830 ft. Texas Pacific C. & O. Co.'s 1, 25-32-14, fsh for 10-in cas 2265 ft. Standard Engineering Co.'s 1, 27-27-11, dr 2566 ft. Waklin Pet. Co.'s 1, 27-27-11, dr 2576 ft. Union Oil Co.'s 1, 34-32-15, rig.

SAN MATEO COUNTY—Shell's Cowell 1, 8-6-5, dr 5138 ft.

SONOMA COUNTY—Shell's Mossi 1, 8-5-7, rig.

TULARE COUNTY—Birch Oil Co.'s 1, 13-21-26, dr 2761 ft. Ducor Drilling Co.'s 1, 29-23-27, sd 4160 ft. Federal Explo. Co.'s 1, testing sand at 5760 ft. J. E. Neame's 1, 24-17-24, sd 2025 ft.

SOUTHERN CALIFORNIA

BOYLE HEIGHTS — Haskell M. Greene's P. A. S. F. 1, swabbed some oil, plug 2450 ft, td 2995 ft.

CLAREMONT—Claremont O. & G. Co.'s 1, sd 1130 ft.

DAVIDSON CITY — Calif. Well Drilling Co.'s Del Amo 1, sd 7060 ft.

DOMINGUEZ—Dominguez Extension Oil Co.'s 1, sd 5510 ft.

EL SEGUNDO—El Segundo Rider Synd.'s

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FAIRVIEW—Pet. Securities Co.'s Fairview 1, dr 4080 ft.

GARDENA—Circle O. & G. Co.'s sd 4130 ft.

HAWTHORNE — San Clemente Oil Co.'s Peck 1, trying for water shutoff 5535 ft.

HUNTINGTON BEACH — Calnan Pet. Corp.'s S. & W. 1, sd 5107 ft. J. W. Browers' Huntington 1, streaks oil sand 5350 ft. Leo Stein's 1, sd 5155 ft.

INGLEWOOD—Alenson & Co.'s 1, sd 3500 ft. Hurst Synd.'s 1, sd 3740 ft.

LANCASTER—John B. Harding's La Loma 1, pulling 8¼-in cas 825 ft. Otis Andrews' 1, rig.

MAYWOOD—Magnolia Pet. Synd.'s 1, sd 2700 ft.

LYNWOOD—Security Pet. Corp.'s 13-3-13, lcn.

MONTEREY PARK — Monterey Park Pet. Corp.'s Browning 1, 10-in cas cmt 3110 ft.

MONTEBELLO — Rotary Air Drill Co.'s Germain 1, sd 1400 ft.

NEWHALL—W. W. Stabler's Castaic 1, sd 3410 ft. Thomason & McCoy's F. C. 1, sd 1610 ft. James Mayzie's 1, sd 200 ft.

ORANGE—Charles A. Son's Orangeana 1, sd 3625 ft.

PLACENTIA—Shell's Allec 1, dr hard sand 5309 ft.

POTRERO—Associated's Cypress 1, flowed 50 bbls oil, 350 bbls water, 5408 ft, will recmt 4¾-in cas 5276 ft.

RIVERA — Associated's Patterson 1, dr 3766 ft.

PUENTE HILLS—Anchor Pet. Co.'s Hudson 1, sd 2275 ft.

SAN FERNANDO — Shell's Mission 1, dr 4961 ft.

SAN JOSE HILLS — Bardeen Oil Co.'s Didier 1, 4¾-in cas cmt 2-30 ft, td 4380 ft. D. & B. Oil Co.'s Amar 1, sd 4380 ft. Fuller & Gray's Sanchez 1, rig.

SAN JUAN CAPISTRANO—O. K. Carr's Forster 2, sd 4200 ft.

TELEGRAPH CANYON—Quadra Pet. Co.'s M. J. M. 1, sd 4210 ft.

YORBA—Standard's Y. L. W. 1, dr 4840 ft.

WATTS—Southwest Pet. Corp.'s Ramsaur 1, sd 4300 ft.

WATSON—Wgite-Behr Oil Co.'s 1, dr 3790 ft.

RIVERSIDE COUNTY—Hemet Pet. Corp.'s Ward 1, dr 1717 ft. Spindletop Oil Syn.'s Salton 1, sd 3175 ft. Trabuco Oil Co.'s 1, dr 2892 ft.

SAN BERNARDINO COUNTY—Arrowhead Dev. Co.'s 1, sd 1560 ft. Colton Terrace Oil Co.'s Colton 1, dr 1633 ft. Como Oil Co.'s Cajon 1, sd 2845 ft. Hesperia Oil & Gas Co.'s 1-A, sd 3310 ft. H. & P. Oil Co.'s Ranger 1, sd 2140 ft. Western Pacific Oil Co.'s 3, sd 3005 ft.

SAN DIEGO COUNTY—Cardiff Oil Corp.'s Turner 1, sd 2806 ft. Davenport O. & Dev. Co.'s 1, dr 150 ft. Oceanside Oil Co.'s Ganymeade 1, rigging rotary 3210 ft. Torrey Pines Oil Co.'s 1, sd 480 ft. Stanley S. Turner's Baler 1, dr 200 ft.

SOUTH LOUISIANA

CAMERON PARISH—
Pure Oil Co., Sweet Lake 3, Sweet Lake 465 5897

TERREBONNE PARISH—
Terrebonne Gas Co., Gaidry 1..... * 3200

ASCENSION PARISH—Gulf's United Lands Co. 4, Sorrento Dome, lcn.

CALCASIEU PARISH—Newton Drlg. Co.'s Dupre 1, Lake Charles, dr 2520 ft gbo. Union Sulphur Co.'s Fee 722, Sulphur Dome, rig.

CAMERON PARISH—Pure Oil Co.'s Sweet Lake 3, Sweet Lake, flowing 365 bbl oil through 5/8 in choke; Sweet Lake 4, Sweet Lake, waiting on orders, td 5141 ft; Sweet Lake 5, Sweet Lake, sd 5140 ft, waiting on orders. La. Land & Explo. Co.'s Calcasieu Lake A-1, set and cem 9¼ in csg at 903 ft. Calcasieu Oil Co.'s Olevia 1, Kelso Bayou, dr 2487 ft; Watkins 1, Kelso Bayou, rigging up. Yount-Lee Oil Co.'s School Land 7, lcn.

IBERIA PARISH—La. Land and Explo. Co.'s Vermilion Bay 2, set surface csg at 408 ft.

IBERVILLE PARISH—Roxana's Wilbert 1, White Castle Dome, set and cemented 12½ in csg at 1054 ft. Union Sulphur Co.'s Wilbert 1, Atchafalaya, rigging up; Schwing 1, Atchafalaya, spd.

LA FOURCHE PARISH—Gulf's Stark et al 2, Thibodaux, lcn.

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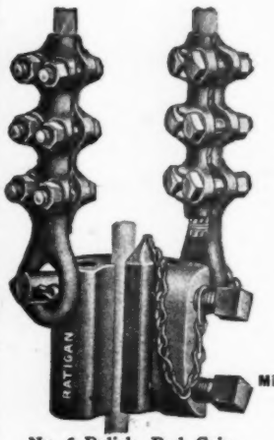

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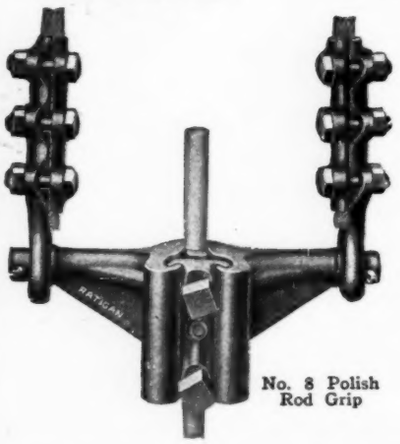

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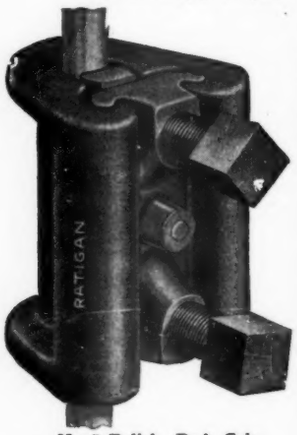

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ST. MARTIN'S PARISH—Rycade Oil Corp.'s Atchafalaya 1, fsh for stuck drill pipe; Atchafalaya 2, rigging up.

ST. MARY PARISH—Jacob Dannenbaum's Viguerie 1, Grand Lake, lcn.

TERREBONNE PARISH — Southern Gas Co.'s South Down 3, dr 2400 ft; South Down 4, lcn. Terrebonne Gas Co.'s Gaidry 1, abn 3200 ft.

TEXAS

SOUTHWEST TEXAS

CALDWELL COUNTY—		
Radcliff et al, New 1	*	2960
The Texas Co., Osteen 2, Dale Field.	236	2230
DUVAL COUNTY—		
Robert Driscoll, fee 8, sec 23	¶35	2440
WEBB COUNTY—		
Cole Pet. Co., Benavides 36	*	5525
JIM HOGG COUNTY—		
Johnson et al, Palacios 21, blk 14, sec 291, Randado	15	1270
O. W. Killam, Canales 1, 16 mi se Hebbronville	*	3070
ZAPATA COUNTY—		
O. W. Killam, Benavides 1, blk 13, sec 12	*	1600
Lopez 1, blk 16, sec 75	*	2185

CALDWELL COUNTY—United North & South Oil Co.'s Kelly 1, dr; Tiller 2, dr.

DUVAL COUNTY — Associated Oil Co.'s Sutherland 1, dr. National Oil Co.'s Ball 1, lcn. O'Hern & Seacord's Schlessinger 1, dr.

JIM HOGG COUNTY — Alworth, Stevens' Hill 23, lcn. Johnson et al's Palacious 22, moving on tools. Miller Shaw's Jones 1, dr. Moody Oil Corp.'s 1, blk 29, dr. Paesano Oil Co.'s 1, Las Vivorcitas Grant, south of Hebbronville, Houston Oil Co.'s Benavides 1, dr; Cuellar 1, standing at 2766 ft. Simms Oil Co.'s Leyendecker 1, dr. A. & M. Stacy's 1, dr.

WEBB COUNTY—Associated-Carson's Webster 2, dr. J. M. Basharaus' Espjo 1, dr. spd. O. W. Killam's Puig 1, dr. T. P. Morgan's No. 2, blk 23, sec 385, dr. Nelson Drilling Co.'s Puig 1, dr. Newton Drilling Co.'s Bruni 2, dr. Rio Grande Oil Co.'s Santo Thomas Grant 1, dr.

ZAPATA COUNTY—Henne, Winch & Farris' Martinez 1, dr. Hill et al's Villa Grant 1, dr.

EAST TEXAS

ANDERSON COUNTY — Brooks et al's Henby 1, Joseph Mertz sur, dk. Humble's Jones 1, Dan Roberts sur, coring 3650 ft; Spencer Clemens 3, Sessions sur, dr 3830 ft. Pure Oil Co.'s Cook 1, A. Lewellen sur, sd 1600 ft.

CAMP COUNTY—J. C. Rogers' Botd 1, R. M. Montgomery sur, dr 117 ft.

CHEROKEE COUNTY—Humble's Elliott Clark 1, M. Windsor sur, sw at 3937 ft; Ragsdale 3, N. Johnson sur, sd 3916 ft. Panhandle Oil Co.'s Whalen 1, J. Jordan sur, sd 550 ft. Joe Walter et al's Barns & DeLoach 1, Perry Reese sur, dr 75 ft.

HENDERSON COUNTY—W. K. Cayton et al's Hoffer & Nash 1, H. Jefferson sur, sd 2910 ft.

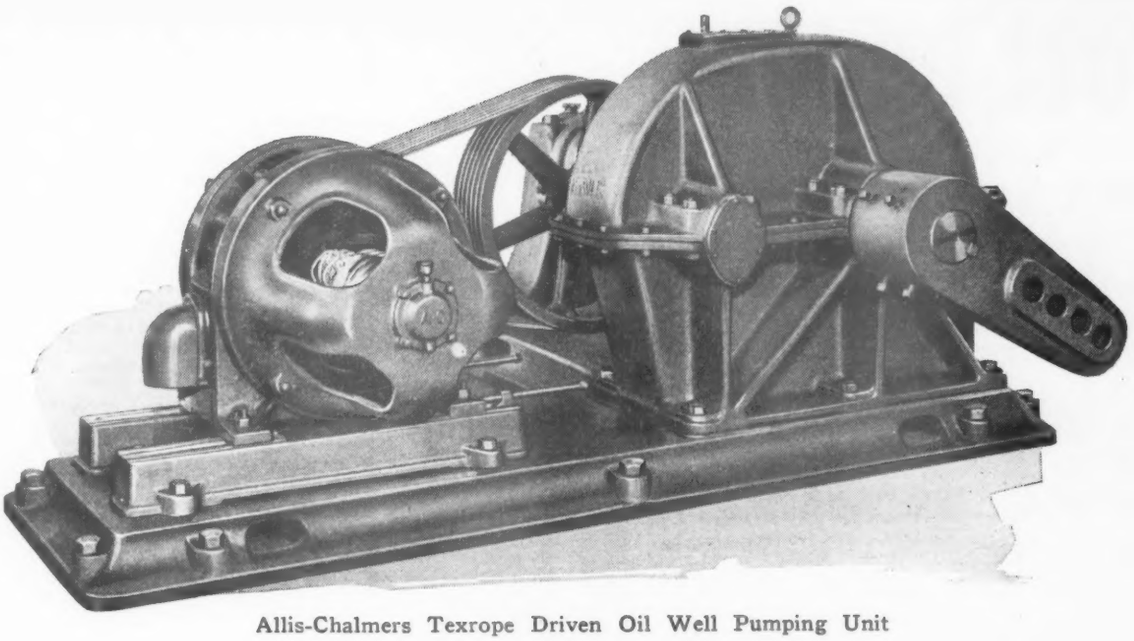
HARRISON COUNTY—Doney et al's Furrh 1, Joel Lipscomb sur, dr plug 986 ft; Furrh 2, Joel Lipscomb sur, dk. Ferguson et al's Abney 1, G. W. Martin sur, dr 785 ft. C. H. Lyon's Furrh 1, James Short sur, dk. Magnolia's Anderson 1, J. Womack sur, wosr, 2402 ft. Mitchell et al's Jones 1, J. Lipscomb sur, tested dry 956 ft. State Line O&G Co.'s Abney 5, E. Little sur, coring 2843 ft; Mullins 2, T. D. Wilson sur, blg 986 ft. Thomasson et al's Timmons 2, Joel Lipscomb sur, rig. Tylong O. & G. Co.'s Vaughan 3, W. R. Anderson sur, rig. A. L. Waller et al's Bryson 2, W. R. Anderson sur, dr 2005 ft.

KAUFMAN COUNTY — Cranfield et al's Nicholson 1, A. Bennett sur, sd 3250 ft.

MARION COUNTY—William Gross' Baker 1, J. French sur, wosr, 2391 ft. Lumberman's Oil Co.'s Bonham 1, R. Potter sur, wosr, 1000 ft.

NACOGDOCHES COUNTY—P. R. Harris et al's Griffin 1, J. W. Anderson sur, sd 280 ft. Stein & Lewis' Birdwell 1, Jose A. Chirino sur, sd 1100 ft. Union Sulphur Co.'s Whitermark 1, Jose A. Chirino sur, dr 2420 ft.

PANOLA COUNTY—Bethany O. & G. Co.'s Burns 3, W. A. Birdsong sur, set 6-in at 1015 ft; Burns 4, W. A. Birdsong sur, dk; Richardson 3, J. Yarnell sur, dk. Magnolia's



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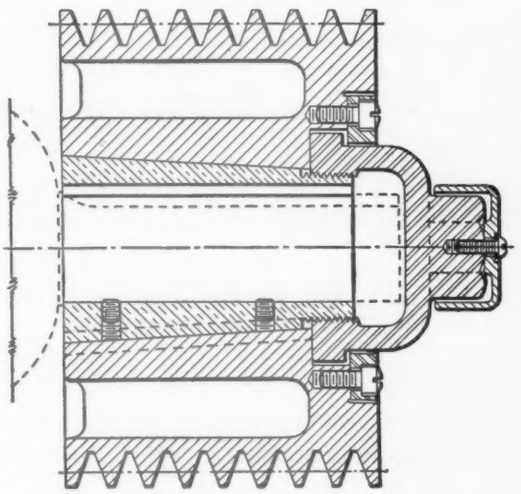

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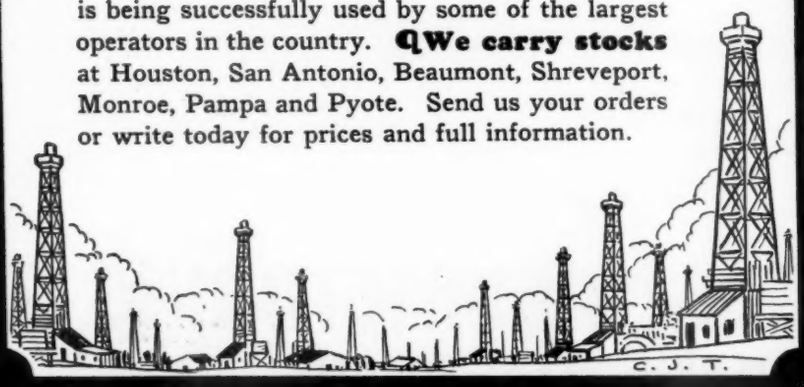

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RUSK COUNTY — C. M. Joiner et al's Bradford 1, K. Ximines sur, fsh 1110 ft. Magnolia's Durren 1, Agulla Norris sur, dk. McCurrie et al's Sparks 1, Jessee Coarse sur, sd 2148 ft. The Texas Co.'s Schultz 1, A. Loffton sur, dr 3263 ft. Osborne et al's Matthews 1, D. Cortinas sur, sd 2330 ft.

SMITH COUNTY — Dr. Gaither et al's Parker 1, Don Thomas Quevedo sur, fsh 3251 ft.

SHELBY COUNTY—Magnolia's Pickering Lbr. Co. 1, Wm. J. Crane sur, fsh 3273 ft. Wm. Sebastian's Pickering Lbr. Co. 1, T. F. Polly sur, arr to set cas at 2923 ft.

SABINE COUNTY—Crater Oil Co.'s Nona Mills 2, Anthony Shoals sur, junked hole while sdtr at 3180 ft, td 3294 ft.

UPSHUR COUNTY — S. W. Richardson's Newsome 1, J. R. Davis sur, sd 2025 ft; Minor 1, A. Lowery sur, fsh 3500 ft.

WEST TEXAS

Company, Well and Location	Initial Production Bbls.	Depth
CRANE COUNTY—		
Duffey & Gault Brown, Cowden 1.	*	3422
JONES COUNTY—		
Gibson-Johnson, Camp 1	*	2208

ANDREWS COUNTY—Amon G. Carter & Henry Zweifel's Cowden 1, elev 3156 ft, top salt 1575 ft, dr 4905 ft. J. S. Cosden et al's Bedford-Ratliff 1, sd 4116 ft. Calvin-Belt et al's Bedford-Ratliff 1, elev 3194 ft, top salt 1610 ft, dr 3700 ft. Deep Rock Oil Co.'s Harris 1, elev 3173 ft, dr 1090 ft. C. B. McKennon et al's Means 1, elev 3144 ft, dr 1680 ft.

BORDEN COUNTY—Marland Oil Co.'s McDavid 1, co 1335 ft.

BREWSTER COUNTY—Cowden-Bowser et al's Jackson-Harmon 1, rig. J. M. Hickey et al's Jackson-Harmon 1, dr 605 ft. Van McPhail et al's McIntyre 1, dr 1125 ft. Mid-Kansas O. & G. Co.'s Turney 1, dr 2295 ft. Reese & White's Kimball 1, ur 1300 ft. Wilcox-Anderson et al's Gage 1, dr 1805 ft.

COKE COUNTY—Brown et al's Foster 1, sd 2250 ft. Danciger O. & R. Co.'s Byrne 1, dr 3130 ft. Lipan Oil Co.'s Conner 1, sd 3315 ft; Rawlings 1, dr by junk 2736 ft.

CONCHO COUNTY — Exploration Co.'s Hartgrove 1-A, sd 760 ft. Lawson & Parks' Schultz 1, elev 1731 ft, dr 1175 ft.

CRANE COUNTY—Crane County Dev. Co.'s Mosley-Brookfield 1, dr 640 ft. Gulf's Waddell 3, dr 1105 ft. Texas Dev. Co.'s Cowden 1, top lime 2635 ft, dr 4245 ft.

CROCKETT COUNTY—J. S. Cosden et al's Paul Perner 1, sd 615 ft. Corbett & Gill's University 1, sd 2105 ft. W. W. Donnelly et al's Shannon 1, sd making gas 1664-80 ft; Shannon 2, lcn; Massie 1-A, sd 305 ft; Todd 1, lcn. Jas. Kelly et al's Todd 1, elev 2661 ft, co after shot, td 2605 ft. C. A. Jones et al's Powell 1, swabbing 85 bbls oil after shot 50 quarts at 2612-34 ft. Osage Oil Corp. et al's Halff 1, dr 520 ft. Bob Penn et al's Powell 1, elev 2759 ft, top salt 1065 ft, top lime 2635 ft, dr 2675 ft. C. E. Simmons & Co. et al's Halff 1, elev 2152 ft, top salt 440 ft, showing gas, cem cas 854 ft. World Oil Co.'s Schneeman 1-B, elev 2663 ft, fsh 2330 ft.

CULBERSON COUNTY—Deep Rock Oil Co.'s T&P Fee 2, sd 1210 ft; Seay 1, spd and sd. Jas. Gardner et al's Radford 1, sd 610 ft.

JEFF DAVIS COUNTY—Humble O. & R. Co.'s C. Flores 1-A, dr 2870 ft. E. L. Smith Oil Co.'s Means 2, sd 2400 ft.

ECTOR COUNTY—J. S. Cosden & The Texas Co.'s Connell 5, elev 2843 ft, top salt 925 ft, top lime 3375 ft, trace oil 3624 ft, sd 3633 ft.

FISHER COUNTY—Cranfill-Reynolds et al's Young 1, dr 2500 ft. Ideal Oil Co.'s Jameson 1, dr 3440 ft. Marland & Vacuum Oil Co.'s Lagow 1, co 3500 ft. The Texas Co.'s Stephens 1-A, elev 1937 ft, dr 2745 ft.

GARZA COUNTY—Gulf Prod. Co.'s Swenson 1-A, elev 2492 ft, top salt 495 ft, top lime 2075 ft, dr 2215 ft.

GAINES COUNTY—Westheimer & Daube's Forbes 1, sd 4900 ft.

TOM GREEN COUNTY—Cox et al's Llano 1, sd 470 ft. Fitzgerald & Taliaferro's Bennett 1, dr 1715 ft. Haubelt et al's Johnson 1, sd

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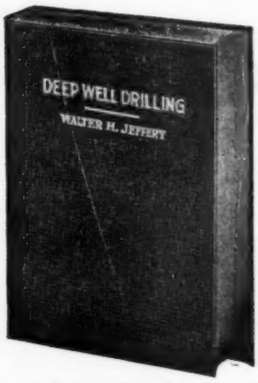

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650 ft. Marland Oil Co.'s Johnson 1, co 2830 ft; Johnson 1-A, dr 2155 ft. Tulsa Oil Co.'s Adams 1, sd 1020 ft.

HOCKLEY COUNTY—World Oil Co.'s Ellwood 1, elev 3363 ft, sd for rotary 1450 ft.

HOWARD COUNTY—Bristow & Merrick's Hooks 4, co after shot 1814-38 ft; Roberts 1, spudding. The California Co.'s Fisher 1, elev 2623 ft, top lime 3065 ft, cas trouble 3783 ft. Cayle-Concord Oil Co.'s Roberts 1, dr 1870 ft; Roberts 2, cem cas 1650 ft; Roberts 3, spd and sd. Dixie Oil Co.'s Clay 1, dr 3290 ft. F-H-E Oil Co.'s Roberts 1-C, dr 1435 ft; Roberts 1-D spd and sd. Godley O. & G. Co.'s Hooks 2, dr 1740 ft; Hooks 3, rig. Henshaw & Co.'s Settles 1, sd 1900 ft. Lee & Neely's H. Hyman 1, dr 1370 ft. Lockhart & Co.'s Roberts 1, rig. Magnolia Pet. Co.'s Kelly-Chalk 9, dr 1130 ft; Mary-Chalk 8, swabbing 21 bbls oil 1653 ft; Mary-Chalk 9, dr 760 ft; Roberts 2, dr 350 ft; Roberts 3, 4 5 and 6, rigs; Roberts-Magnolia 1, lcn. Marland Oil Co.'s Clay 1-E, elev 2662 ft, co 3552 ft; Clay 6-A, swabbing and co in oil pay 1837 ft; Clay 7-A, swabbing 2½ bbls oil per hour after shot 1840 ft; Richardson 1, elev 2359 ft, top salt 870 ft, dr 1835 ft. Marland & Texon Oil & Land Co.'s Connally 1, ur 4050 ft; Settles 2-A, rig. Marland & F. P. Zach's Jones 1, top salt 970 ft, dr 2330 ft. Mays-Nixon et al's Flowers 1, dr 1095 ft. Miley Oil Corp. & Marland's Read 1, spd and sd. Owen-Sloan et al's Roberts 1, co 1930 ft; Roberts 2 and 3, lcns. Peer Oil Corp.'s Read 1, ur 3215 ft. Schermerhorn Oil Co.'s Roberts 1, dr 1810 ft; Roberts 1-A, spudding. Sprague Oil Co.'s Roberts 1, spudding. Sun Oil Co.'s Settles 1, rig. Sweeney & Henry's Chalk 2, dr 655 ft; Chalk 3 and 4, lcns; Chalk 5, dr 1110 ft. Ward Oil Co.'s Roberts 1, dr 1600 ft. Weekly Oil Corp.'s Roberts 1, rig.

HUDSPETH COUNTY—Lockhart & Co.'s Moore 1, sd 905 ft; Gardner-Mosely 1, sd 975 ft.

IRION COUNTY—F. E. Webb et al's J. M. Nutt 1, spd and sd.

JONES COUNTY—E. P. Campbell et al's Herndon 1, sd 3009 ft. R. F. Garland & Co.'s Glynn 1, sd 2430 ft. Hutson-Weaver's Smith 1-A, sd 1980 ft. Phillips Pet. Co.'s Vestal 2, dr 1150 ft. W. G. Stough et al's Bennett 1, sd 800 ft; Willis 1, sd 1740 ft. Swensondale Oil Co.'s Canton 1, co 3315 ft.

KING COUNTY—Humble O. & R. Co.'s Pitchfork 1, dr 3265 ft. Pattison et al's Patton 1, fsh 3410 ft.

LOVING COUNTY—Delaware Oil Co.'s Lockhart-Ramsey 1, lcn.

MENARD COUNTY—May & Clark's Callan 1, dr 225 ft. Renfro et al's J. Davis 1, lcn.

MIDLAND COUNTY—Shoup et al's Parks 1, lcn.

NOLAN COUNTY—John Winemiller Corp.'s Arledge 1, fsh 1900 ft.

PECOS COUNTY—Geo. H. Anderson et al's Sherbino 1, dr 325 ft. Buell-Hagan et al's Pryor 1, lcn. Cummings et al's Blackstone-Slaughter 1, dr 2270 ft. Crude Oil Co.'s Pecos River 5, dr 500 ft; River 8, rig; River 11, dr 855 ft. Day Bros. & McKnight's Yates 1, elev 2213 ft, top salt 440 ft, sd 895 ft. Douglas Oil Co. and Roxana's Sellman 2, rig. Everett et al's J. Fields 1, spd and sd. Gibson Oil Corp.'s Russell 1, dr 110 ft. Henshaw & Co.'s Corder 1, dr 360 ft; Sweatt-Hinyard 1, elev 2770 ft, dr 2130 ft. Kershaw & Livingston's Cannon 1, cellar dug. Kirby Pet. Co. et al's Harral 1, top salt 1005 ft, dr 1625 ft. Robt. Lee et al's Parker 1, rig. Mid-Kansas O. & G. Co.'s Pryor 1, rig. Mid-Kansas & Transcontinental's Smith 2, dr 340 ft. Moody Corp.'s Corder 1, dr 695 ft. Olean Pet. Co.'s Harral 1, ur cas 3003 ft. Oregon Oil Corp.'s Yates 1, machine. B. J. Spikes et al's Brown 1, spd and sd. Transcontinental's Blackstone-Slaughter 1, elev 3539 ft, dr 3710 ft. World Oil Co.'s M. Cerf 1, elev 3435 ft, dr 75 ft; Kloh 1, elev 2810 ft, rig.

REAGAN COUNTY—Camp & Henshaw's University 1, elev 2772 ft, top salt 1130 ft, dr 2105 ft. Skelly Oil Co.'s University 1, elev 2895 ft, top salt 1340 ft, sd 2795 ft. J. T. White et al's Shafner-Sterling 1, sd 905 ft.

REEVES COUNTY—The Exploration Co.'s A. A. Kinney 1, co 1275 ft. D. R. Thompson et al's Eddins 1, fsh 4170 ft. Grisham-Hunter Corp.'s Rathage-Conner 1, rig. World Oil Co.'s A. L. Duff 1-A, elev 2774 ft, plugged back from 4514 to 4237 ft for shot.

RUNNELS COUNTY—Empire Gas & Fuel

Co.'s Gray 1, dr 1880 ft. Gibson-Johnson et al's Harris 1, lcn; Serratt 1, rig. Kenwood Oil Co.'s Talley 1, sd 1720 ft. Noble O. & G. Co.'s Sims 1, dr 3165 ft. Henry B. May et al's Schneider 1, elev 1666 ft, sd 1075 ft. Miles Oil Co.'s Lawhon 1, sd 2250 ft; Chas. Ray 1, dk. Royal Pet. Co.'s Willingham 1, rig. Swensondale Oil Co.'s Werner 1, elev 1803 ft, sd 1850 ft. Watchorn O. & G. Co.'s King 1, dr 1505 ft.

SCHLEICHER COUNTY—Thos. Gray et al's Robinson 1, ur 3090 ft.

TAYLOR COUNTY—A. J. Brown Prod. Co.'s Henslee 1-A, elev 2010 ft, dr 2300 ft. Owen-Sloan et al's Latomer 1, fsh 2605 ft. Roeser-Pendleton Inc.'s Butman 1, ur 2945 ft. Gilbert Johnson & Dyar Bros.' Brown 1, sd 835 ft.

TERRELL COUNTY—Deep Rock Oil Co.'s Noelke 1, rig. Milham Corp.'s Bassett 1, dr 980 ft. Humble O. & R. Co.'s University 1, spd.

UPTON COUNTY—Curtis et al's Giddings 2, sd 630 ft. Southern Crude Oil Pur. Co.'s Hobbs 1, dr 2515 ft. The Texas Co.'s Cordova 1, (sec 23) elev 2576 ft, top lime 1948 ft, dr 2318 ft.

VAL VERDE COUNTY—Magnolia's Whitehead 1, dr 5440 ft. O. O. Owens et al's Henry Mills 1, dr 3825 ft. W. B. Tharves et al's W. E. Wilson 1, spudding.

WARD COUNTY—Selby et al's Dooley 1, rig.

WINKLER COUNTY—Amerada Pet. Corp.'s J. B. Walton 1, elev 2833 ft, fsh tools 2409 ft. Atlantic Oil Prod. Co.'s Grisham-Hunter 2, dr 2710 ft; Grisham 3, dr 775 ft; Grisham 4, rig; Grisham 1-C, dr 2490 ft; Grisham 1-E, cem cas 2274 ft; Hendricks 1, flow 220 bbls oil daily fsh 2830-2936 ft; Hendricks 1-D, flow by heads, dr pay 2870-2915 ft; Hendricks 2-D, cem cas 2554 ft. Atlantic & J. D. Collett's Hendricks 1-F, spudding. Arizona Mining & Eng. Co.'s Hendricks 1, spd and sd. V. T. Bolin Co.'s Brown 1, spd and sd. The California Co. and Cranfill Bros. Oil Co.'s Bashara 1, sd 3503 ft. Cranfill-Reynolds et al's Hendricks 1-B, dr 2460 ft; Hendricks 1-C, lost returns 620 ft. Eastland Oil Co.'s Hendricks 1, dr 2610 ft. Gulf's Hendricks 2, rig; Hendricks 8 and 9, rigs. Humble O. & R. Co.'s Grisham 1, dr by junk 2763 ft; Grisham 3, dr 2630 ft; Grisham 5, dr 315 ft; Hendricks 2-B, dk; Hendricks 3-B, flowing 270 bbls per hour 3018-27 ft. Independent O. & G. Co.'s Grisham 2, flow 735 bbls oil daily, fsh 2815 ft; Grisham 3 and 4, lcns; Grisham 5, 6, 7 and 8, rigs; Grisham 1-B, top salt 1175 ft, dr 1185 ft; Grisham 2-B and 3-B, dks. Landreth Prod. Corp. & Roxana's Hendricks 1-A, co, td 3013 ft; Hendricks 2-A, dk; Hendricks 3-A, spudding; Hendricks 4-A, flowing oil, dr pay 2930-65 ft. Liner Drilling Co.'s Campbell 1, spd and sd. Magnolia Pet. Co.'s Hendricks 2, top lime 2512 ft, flowing 2000 bbls oil with trace water 2865-2955 ft; Hendricks 3, dr 2470 ft; Hendricks 4, cem cas 2494 ft; Hendricks 5, dr 250 ft; Hendricks 6, rotary rig. Murchison Oil Co. and Cranfill Bros. Oil Co.'s Grisham 2, 4 and 1-B, lcns; Grisham 2-B, flowing 320 bbls oil daily at 2890-3050 ft; Grisham 3-B, cem cas 2427 ft; Grisham 4-B, dr 2850 ft. Joe Maxwell & Luther Turman's Hendricks 1, sd storage 2879 ft; Hendricks 2, top lime 2452 ft, sd making 10 million ft gas 2865 ft; Hendricks 3, top lime 2480 ft, sd 2585 ft; Hendricks 4, rig; Hendricks 5, lcn. Republic Prod. Co.'s Grisham 1-B, (sec 41) dr plug 2008 ft; Grisham 2-B, dr 2440 ft. Roxana Pet. Corp.'s Grisham 1-A, flowing 300 bbls oil and lots of gas 2801 ft; Hendricks 1-B, (sec 29) fsh bailer 3010 ft; Hendricks 2-B, rig; Hendricks 2-C, top salt 1405 ft, dr 2030 ft; Hendricks 3-C, dr 300 ft; Hendricks 4-C and 5-C, rigs; Hendricks 1-D, dr 2560 ft; Hendricks 2-D, lcn. Sheldon & Burden's Hendricks 1, elev 2806 ft, top lime 2610 ft, cem cas 2613 ft. Southern Crude & R. A. Westbrook & Co.'s Grisham 2-A-T-89, cem cas 2301 ft; Grisham 3-A-T-89, fsh tools in gas 2420 ft; Grisham 4-A-T-89, rig; Grisham 2-B-T-88, (sec 4) cem cas 2659 ft; Hendricks 1-C-T-88, (sec 28) fsh 2875 ft; Hendricks 2-C-T-88, flowing oil dr pay 2805-30 ft; Hendricks 3-C-T-88, dr hfo at 2790-2805 ft; Hendricks 4-C-T-88, cem cas 2586 ft; Hendricks 5-C-T-88, dr 2520 ft; Hendricks 6-C-T-88, cem cas 2528 ft; Hendricks 7-C-T-88, cem cas 2435 ft; Hendricks 1-G-T-88, lcn; Hendricks 1-I-T-88, dr 1300 ft; E. G. Hutchings 1-T-90, spudding. Southern Crude & Dixie Oil Co.'s Grisham 1-A-3-T-68, fsh tools with hfo 2740 ft; Grisham 2-A-3-T-68, sd storage 2288 ft; Grisham 3-A-3-T-68, making 8 million ft gas fsh tools 2400-20 ft; Hendricks 1-A-3-T-67 (sec 4) sd 3072 ft; Hendricks 2-A-3-T-67, sd storage 2646 ft; Hendricks 1-B-T-67, stdz 2648 ft; Hendricks 5-C-T-67, dr 860 ft; Hendricks 2-F-T-67, dr 420 ft; Hendricks 3-F-T-67 and 4-F-T-67, rigs. The Texas Co.'s (was Pure Oil Co.) Grisham 2, re-bldg rig, td 2825 ft; Grisham 3, stdz 2360 ft; Grisham 1-B, (sec 34) killed gas with rotary 2720 ft; Grisham 2-B, flowing oil, dr 2808 ft; Grisham 3-B, dr 2680 ft; Grisham 4-B, rig; Grisham 1-C, lcn. Texon Oil & Land Co.'s Grisham 2-A, fsh tools in gas pay 2725 ft; Grisham 3-A, cem cas 2140 ft; Grisham 1-B, (sec 45) dr 1940 ft; Grisham 2-B, cem cas 2506 ft. White Eagle O. & R. Co. et al's Leck-Collins 1, sd 3260 ft.

TEXAS GULF COAST

AUSTIN COUNTY—Humble's Gotosky 2, Raccoon Bend, dr 1805 ft shale and lime; Stravoski 1, Raccoon Bend, rigging up. Alexander & Lyles' Goebel 1, sd 1300 ft. L. H. Weadock's R. M. Ward 1, spd.

BRAZORIA COUNTY—Roxana's Allen Bernard 1, Allen Dome, making heads of oil at rate of about 28 bbl a day from 5337 ft; Allen 4, Allen Dome, dr 4236 ft, hard sandy lime, in third hole; Randon 1, Allen Dome, dr 4300 ft sticky shale, streaks hard sandy lime; Bell 2, Clemons Dome, set and cem csg at 4870 ft.

CHAMBERS COUNTY—Pure Oil Co.'s Lost River 1, Lost Lake Dome, set csg at 1142 ft.

COLORADO COUNTY—Rich Oil Corp.'s Von Rosenberg 1, about 2½ mi s of Columbus, spd.

FORT BEND COUNTY—Gulf's Trone 6, Long Point, lcn; Wolf 7, Long Point, lcn. Sun Oil Co.'s Kasparek 1, Boling, dr 1860 ft gbo; J. R. Farmer 4, dr 2475 ft; H. R. Farmer 3, dr 1100 ft. Humble's Sugarland Industries 1, Sugarland, setting up.

HARRIS COUNTY—Dr. P. S. Griffith's Fee 2, 12 mi n of Houston, sd 3517 ft. Juanita Oil Co.'s Kiteman 1, 3 mi n of Cypress, sd 1180 ft. Humble-Marland's Warren 2, Hockley, dr 3150 ft gbo and lime.

JEFFERSON COUNTY—Deep Test Oil Co.'s McFaddin 1, 4 mi ne Spindle Top, sd 2175 ft. Beaumont Oil & Prospecting Co.'s Tyrell 1, 3 mi nw Beaumont, dr 4200 ft shale. Southern Spindle Top O. & Dev. Co.'s Young 1, 1 mi w of Nederland, dr 3200 ft. Jim McMurry's Crosby 1, 5 mi ne Port Arthur, sd 3350 ft.

LIBERTY COUNTY — Harrison Oil Co.'s Quintette 2, N. Dayton, temp abn at 4602 ft; Jones 1, N. Dayton, abn 2400 ft rock. Judge Titwell et al's Gardner 1, 5 mi e of Davis Hill, washing 3510 ft. The Texas Co.'s Havard 1, Davis Hill, dr 4101 ft sand. Barlow et al's Minchcliff 1, 2½ mi ne Cleveland, sd 2215 ft. Yount-Lee Oil Co.'s Mitchell 1, S. Liberty, spd.

MATAGORDA COUNTY—Matagorda Dev. Co.'s Hawkins 1, Bay City, sd 1985 ft shale. Valley Oil Co.'s Hudson 1, Markham, abn.

MONTGOMERY COUNTY—Braine et al's Fitch A-1, 3 mi e of Spring, dr 3680 ft shale and lime. Johnson Hardy's Hardy 1, 4 mi s of Conroe, sd 1000 ft sand and gbo. J. W. Hardy's Stewart 1, lcn.

WALLER COUNTY—J. R. Garrett et al's Garrett 1, 12 mi e of Hempstead, dr 970 ft shale.

WHARTON COUNTY—Ingram Prospecting Co.'s Hounshell 1, lcn.

MOUNTAIN STATES

WYOMING

BIG HORN—Agate Oil Co., ne 13-51-92, testing; will probably abandon. Utah Southern Oil Co.'s 3, 29-56n-97w, straight reaming at 2345 ft. Wisconsin-Himes, 9-54-94w, contract compl to 571 ft.

CARBON—Graybeal Synd., 16-28-91, sd for winter at 4380 ft. Pacific American Oil Co., 31-25-91w location.

CONVERSE—A. E. Tylee, ne 8-32-72, sd for repairs. Criterion Oil Co.'s Irvine 1, 5-31-70, coring below 3445. John Ackard's McKinley 1, 21-31-69, suspended for winter below 3000 ft.

FREMONT—Producers & Refiners' Muskrat 1, 34-34-92, dr 1695 ft. Texas Prod. Co.'s Alkali Butte 1, 1-33-93; dr below 920 ft. Zola Oil Co.'s Crook's Gap 1, 25-27n-93w sd for winter at 3750 ft. Iowa-Wyoming Iv. Co., 30-1s-2e, attempting water shut-off at 1500 ft.

JOHNSON—Fairway Oil Co.'s Crazy Woman 1, 7-47-82, no report. Tarrant Syndicate's 2, 17-46n-82w, undrr at 3625 ft. Murphy & Grove, 10-41n-80w, sd 800 ft, hole full of water.

LINCOLN—Fentenelle Oil Co., 1, ne ne 1-24n-113w, dr 1125 ft.

NATRONA—North Casper Creek O. & G. Co., se 1-36-82, sd Combs Inv. Co., 12-39-78, dr below 500 ft.

NIOBRARA—Penn-West. Pet. Co., 13-35n-62w, will resume in the spring, td 800 ft. Hollingsworth Bros., 17-39-79, fsh tools at 1710 ft.

PARK—Union of Calif.'s Taylor 1, 22-47-101, dr 3307 ft. Fred G. Ostland's Hoodoo Ranch 1, 23-51-101, sd 1740 ft. Honolulu Oil Corp.'s Four Bear 1, 29-48-103, fsh 2775 ft. Ralph Arnold & Chas Mau, nw¼, 25-58n-98w; dr 1580 ft. Ydoc Oil Co., ne 6-51n-101w, dr 895 ft. Honolulu Oil Co.'s Pitchfork 1, 14-48n-102w, location. Hoodoo Oil Co., 36-51-101, dr 155 ft.

PLATTE—Walter Adams, Trustee, sec 13-25-66, dr 1700 ft.

SWEETWATER—Boar's Tusk Oil Co., 16-23-104, artesian water at 1450 ft. Prairie O. & G. Co.'s Tucker 1, 18-13-99, sd for winter at 510 ft. P. & R. Marland of Colo., 26-20-104, sd for winter at 485 ft. Tower Pet. Co.'s 1, 6-14n-103w, spd.

WASHAKIE—P. & R. Corp.'s Tensleep 1, 13-46-89, undrr, 8½ in at 3260 ft.

WESTON—Unknown persons, ne 15-44-64, run 15½ in for surface water. Gose Synd.'s 1, ne 28-47n-65w, attempting to pull 4¾ at 4850 ft.

UINTA—Uinta Oil & Dev. Co., in Evanston, recem at 1200 ft.

COLORADO

ARCHULETA—Kansas Colo. Oil Co., 17-34-2w, will resume at 1300 ft.

BACA—Phillips-Jones' Jones 1, 26-34s-48w, sd 1745 ft.

BOULDER—Left Hand Oil Co.'s Prechtl 1, 34-3n-70, pull 4¾ in to re-run 3 in. Essok Oil Co.'s Martin 1, 5-1s-70, undrr to 5225 ft. Repollo Oil Co.'s Nichols 1, 32-1n-70w, dr 3160 ft.

EL PASO—Grand Union Oil Co.'s John Jr. 2, 19-17s-67w, dr 775 ft.

FREMONT—Fremont Leasing & Holding Co.'s 1, 2-19-70 fsh. Columbia Oil Co.'s Sheridan 1, 20-18-70, sd at 2240 ft.

HUERFANO—Kinney-Coastal Oil Co.'s Pino 1, 24-26s-68w, rig up.

JACKSON—North Park Oil Co.'s Goettler 1, 9-6n-82w, dr 506 ft.

LAS ANIMAS—Parker Club Inc.'s Adams 1, 32-34-55, dr 3740 ft. Foley & Goldsworthy's Gov't 1, 11-30-60, standing, td 2010 ft. Mtn. Sts. Gas Corp.'s Sandoval 4, 9-24-62, dr 1150 ft.

LA PLATA—East Long Beach Oil Co.'s Aspaas 1, 10-34n-11w, set 10 in at 902 ft. Detroit Oil Assn.'s Olbert 1, 9-35-12w, run 6⅝ in at 1375 ft.

LARIMER—Five Square O. & G. Co.'s State 1, 16-4n-69w, dr 300 ft.

LAS ANIMAS—Moore Dome Sund.'s Government 1, 11-30s-60w, standing 2010 ft. Reiter-Foster & Phillips Pet.'s Haskins 1, 23-29s-56w, mvg in material.

LOGAN—N. E. Colo. Oil Co.'s State 1, 36-8n-55w, dr 5455 ft.

MOFFAT—Ohio Oil Co.'s Kuykendall 1, 22-21n-11w, sd for winter. Reiter-Foster Oil Co.'s State 1, 16-12-100, td 2065 ft. Yarg Producing & Ref. Co.'s 205, 26-4n-92w, dr 2100 ft. I. L. Keith's Milliken 1, 14-4n-92w, spd.

MONTEZUMA—Conn & Cotton's Hall 1, 9-35n-13w, wtg drg line at 1240 ft.

MONTROSE—Indian Pet. Corp.'s Gilmore 1, 4-45-16w, dr 4000 ft.

RIO BLANCO—Texas Prod. Co.'s Freeman 1, 27-3-94, dr 5200 ft. Argo Oil Co., sw 9-2s-96w, rigging.

ROUTT—Great West. Oil Co.'s State 1, 17-60n-86w, undrr to 1710 ft.

SAGUACHE—Cook, Weber et al's State 1, 27-41n-10e, hole partly cleared, td 4300 ft.

WELD—Platte Valley Pet. Corp.'s Patterson 1, 24-6n-61w, dr 3525 ft.

NEW MEXICO

CURRY—Hasson Pet. Co.'s Laird 1, 22-8-36, spd and sd. Clovis O. & G. Co.'s Hoskinson 1, 21-3n-36, sd 3736 ft.

CHAVES—Gibson Oil Corp.'s Forsyth 1, 8-11-23, sd at 675 ft. Buffalo-Roswell's 1, 24-11-27, sd at 4300 ft. Arena Oil Co.'s 1, 18-13e-31e, fsh tools at 750 ft. McQuigg Bros.' Neis 1, 7-5s-29e, dr 1200 ft.

GUADALUPE—Hanchett Oil Co.'s Rutherford 1, 23-8-24, dr below 4300 ft. Union Pet. Co.'s McMullen 1, 24-5n-16, installing heavy

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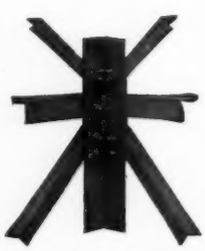
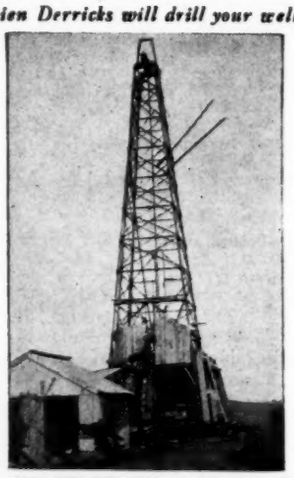


The inside construction of a joint in an O'Brien Derrick. The inside and outside reinforcing plates form a slot to receive the next higher leg.



Outside joint of an O'Brien Derrick. The slot formed by the two plates holds the legs in place, while bolting up, thus making fast erection easy.

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equipment td 235 ft. Navajo Oil Co.'s Goard 1, 10-31-7, dr.

LEA—Midwest Ref. Co.'s State 1, 9-19s-38e, c o at 975 ft.

McKINLEY—Smart & Reid, 7-17-9, rig. Inland Oil Corp., 22-18-10, undrr to 762 ft. S. Dysart's 1, 21-14-9, dr 1550 ft. Continental Oil Co.'s Carrica 1, sw 9-17n-7w, dr 2830 ft. Jenkins Oil Co.'s 1, 1-16n-9w, sd 1200 ft. Williams et al's 2, 30-18n-8w, standing with hole full of water at 860 ft. Reliance Oil Co.'s Valentine 1, 16-17-9, standing 1070 ft. Producers & Refiners Corp.'s 1, 12-17-9, dr 1199 ft.

QUAY—Gibson Oil Corp.'s 1, 25-8-32, operations will be resumed at 3500 ft. Ohio Oil Co.'s Jordan Ridge 1, 24-7-29, dr 4668 ft.

SAN JUAN—Continental Oil Co.'s Munoz 17, 2-29-19, dr 3835 ft. Kansas-Colorado Oil Co.'s Atterberry 1, 23-31-11, fsh tools at 1850 ft. T. C. N. Oil Co.'s Lanier 1, 9-29-11, sd 547 ft. Huntington Park Oil Co.'s 2, 29-30-9, re-run 5 3-16 in. R. M. Smith's Abrams 2, 23-29-11, standing at 532 ft. Huerfano Oil Co.'s Wiltbank 1, 25-29-11, standing. Aztec Oil Co.'s Finch 1, 15-29-11, repairing equipment, td 650 ft. Union Oil & Mining Co.'s Pine 2, 8-29-9, oil showing, fsh td 2950 ft. San Juan Pet. Corp.'s 1, 9-29n-13w, dr 300 ft. A. Johnson, Trustee's, 1, 24-29n-11w, rigged up.

SOCORRO—Abo Oil Co.'s 1-A, 14-3s-6e, set 12½ in at 600 ft, sd to reorganize.

TORRANCE—Duran Dome Oil Co.'s 1, 31-2-14, sd 1500 ft. F. G. Wilson Trustee's Pace 1, 12-6n-27, standing at 2215 ft. Bluhall O. & G. Co., 20-6n-10e, dr 560 ft. San Juan Pet.'s Randall 2, 26-6n-10e, dr 4885 ft. San Juan Pet. Co.'s Minerman 1, 31-7-10, pull casing td 2650 ft.

VALENCIA—Acme Oil Co., 26-6-3, dr 2140 ft. Stone, et al's 25-7-2, fsh pipe at 1967 ft.

MONTANA

BIG HORN—Selig O. Co.'s 1, se 21-6s-35, dr below 700 ft.

CARBON—Ohio Oil Co.'s Northern Pacific 1, 11-75-21e, dr at 2685 ft. Book et al's Moore 1, 13-17-23, wait supplies td 850. Atlantic Oil Co.'s 3, ne 20-7s-24e, casing cem at 948 ft.

CASCADE—Lone Star's McLean 1, 12-21n-3e, sd 100 ft.

FERGUS—Melton Corp.'s Fenholt 1, 24-21-17, dr below 2230 ft. Mineral Research Co.'s 1, 13-17-23e, sd 843 ft for winter.

FLATHEAD—Flathead Pet. Co.'s Reservation 1, se 35-23-22w, rig.

GLACIER—Rimrock Oil Co., 29-35-5w, rig up.

HILL—A. H. McFarland, sw 15-30-13e, sd at 100 ft. Gad-Hamilton et al's Goldstone 1, sw 25-36-9e, rig. Equitable Oil Co.'s Perkins 1, 34-33-12e, 4,000,000 cu ft gas at 3330 ft.

LIBERTY—Chester Oils Inc.'s Laird 1, 31-37-6e, sd 2020 ft, delayed by bad weather. Sunburst O. & R. Co.'s Disotell 1, 10-37-5e, dr below 2400 ft.

MADISON—Madison County Oil Co.'s 1, nw 17-7s-1w, sd 1700 ft.

MUSSELSHELL—Manhattan Oil Co., ne 24-7-24e, sd 60 ft. McElwain Oil Dev. Ass'n, 2-11-22e, rig.

RICHLAND—Community Drill Co.'s Pioneer 1, rig to drill deeper from 2600 ft.

ROOSEVELT—Pioneer O. & G. Co.'s 1, se 35-27-51e, sd 1590 ft.

PONDERA—Embar Drlg. Co., 5-27-3w, dr 1890 ft. S. C. Ferdig et al's 8-27-4w, rig. Continental Dev. Co., sw 19-27-3w, dr below 600 ft.

PHILLIPS—Big Dome Oil Co.'s Bloomberg 1, ne 1-32-32e, set 12 in at 520 ft, and dr ahead.

SWEETGRASS—Shoshone Cons., nw 23-2n-15w, casing trouble at 2100 ft.

TETON—Drilling et al, ne 9-25-1e, fsh at 1408 ft. Continental Dev. Co.'s Ritmoure 1, 8-27-5w, dr 900 ft. Elliot et al's Bannatyne 1, 19-26-1e, dr 1530 ft. Craig-Speer, McCutcheon, 9-23-2w, spd.

TOOLE—Kevin-Flathead Oil Co.'s 1, ne 27-36n-23, sd 2200 ft. Zenith McDonald's Lowey 1, 35-36n-1w, dr 2135 ft. Sunburst O. & G. Co.'s Grandview 1, 10-34n-32, rig. Madeline Oil Co.'s Swenson 1, 33-35-4w, dr 550 ft.

HOW OIL MEN PLAY

Playing Baseball Fifteen Years Ago Still Is a Help to Jarvis

SAM B. JARVIS became the idol of many baseball fans 15 years ago when he played a spectacular game for the Mount Pulaski, Illinois, team of the Illinois league. Then he came West in 1918, and since that time he has learned that many of the friends he made defending Mount Pulaski's baseball record would come in handy.

Among these early friends were the descendants of L. K. Scroggins, wealthy land owner of Mount Pulaski, whose land was scattered in various regions throughout the Middle West. And among this land were pieces scattered throughout the little town of Oxford, Kansas, the most interesting piece of which was known as "Scroggins sold a strip through his land to long. Back in the old days Mr. Scroggins sold a strip through his land to the Arkansas Valley Railway Company, the dividing of which cut some of his other property off from the highway, so he retained "Scroggins Lane" for the purpose of driving to and from town to his property he had retained. Following the old man's death years ago "Scroggins Lane" was never divided between the 27 heirs to the Scroggins estate. It was not considered worth fooling with.

Then oil was discovered at Oxford, and the trend was toward "Scroggins Lane" on all sides. A rush of blocking followed, every major company in the vicinity trying to get the narrow strip, but the signature of 27 heirs, most of whom were scattered here and there over the country, made it a slow proposition. Sam Jarvis knew all of them personally—they had boosted for him at his place behind the bat when Mount Pulaski's nine was playing for blood. He knew where they lived, and furthermore knew that he would have first choice of the land. He hunted them down, one by one, until he had the 27 signatures on the dotted line. Then he drilled on "Scroggins Lane" and the first well started off at 80 barrels an hour, and since has been among the most substantial producers in the Oxford townsite pool.

Then there was another break for Jarvis. The town of Oxford passed a ruling of "one well to the block" in the city limits. But the north line of the 45-foot strip making up "Scroggins Lane" was the south side of the city limits. So the strip had another location.

Through his connections with the many Scroggins heirs 15 years ago Jarvis and his partner, E. B. Shawver, of Wichita, Kansas, were able to get the rest of the choice land which had gone undivided. He has the mineral rights along the Arkansas Valley right-of-way covering land for six locations, one of which is already producing, provided a suit now pending between the railroad and the operators is decided in the latter's favor.

SAM B. JARVIS

Sam Jarvis is as much of a baseball fan now as was a player when he caught for Mount Pulaski. Since he moved to Arkansas City in 1921 he has been one of the most ardent supporters of that city's club, and was a leader in a drive to subsidize the club last year when financial embarrassment loomed. Some day he might support a club of his own when his business will allow the time.

Jarvis sees a marked difference in baseball of today and 15 years ago. Then they played strictly for the love of the game; few men went into the leagues for the sake of a living. The stipend was not enough but what it could be made more easily in some other work, even with the outstanding stars of the diamond. The big money element didn't enter then as today. There was very little "man buying" in those days, which resulted in a team being more stable. The Mount Pulaski nine established a record in playing the same men for four consecutive years without a change.

Jarvis was born in Latham, Illinois, in 1891, and moved at an early age to Mount Pulaski. He went West in 1918, settling at Newkirk, Oklahoma, as an independent wildcat operator. His headquarters were moved to Arkansas City, Kansas, in 1921. He now has approximately 1000 barrels daily production at Oxford from two wells.

Gas Production Sold

Casper, Wyo.—Hughes Royalty Oil Company has recently completed negotiations with the Producers & Refiners Corporation for the purchase by the latter of the Hughes gas production from Mahoney Dome field in Carbon County.

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Operating Costs of Gas Engines Vs. Motor Driven Compressors

By C. P. CLARK
Clark Brothers, Olean, N. Y.

IN gathering data for this paper it was quite apparent that because of the rapid development and changes in the air-gas lift method of pumping oil that costs and estimates must be of a general character.

There seems to be quite a diversity of opinion. For instance, Mr. S. F. Shaw, in an article on "Air-Gas Lift Practice in the Seminole," sets the price per thousand feet of air of direct gas engine driven compressors at 3 to 4 cents, and the electrically motor driven compressors at 7 to 8 ecnts. It is to be assumed that he is quoting from his experience with the Carter Oil Company. The Indian Territory Illuminating Oil Company estimate, roughly, 8½ cents per thousand for electrically driven units and 5 cents a thousand for gas engine driven compressors, where their fuel cost is 25 cents a thousand.

In order to arrive at some basis of comparison, estimated costs from Seminole field experience have been compiled of the two types of plants. These plants are of the average size and of the same capacity, compressing air from zero to 300 pounds.

Six Unit Direct Driven Gas Engine Plant

Interest on $51,000 @ 6%	$ 8.37
Depreciation @ 10%	13.90
Repairs 2% engine cost	1.65
Wages—Operators and oilers	25.00
Oil and Waste	3.90
Fuel @ $.25 per M	32.40
	$85.22

Total Capacity —2,700,000 Cu. Ft. per 24 hours.
Cost per thousand—$.0318.

Nine Unit Motor Driven Compressor Plant

Interest on $45,000 @ 6%	$ 7.40
Depreciation @ 10%	12.30
Repairs @1% compressor cost	1.20
Labor—3 operators	15.00
Oil and Waste	1.90
Current @ .0117 k. w. and 60 k. w. per hour	157.20
	$189.00

Total capacity 2,700,000 cu. ft. per 24 hours.
Cost per thousand cubic feet—$.07.

The cost per unit of the electric driven plant installed was estimated at $5000.00. This includes buildings, necessary piping, auxiliary equipment, etc. The cost for installing a 90 horse power tandem unit, including buildings, foundation, necessary piping, auxiliary equipment, etc., was estimated at $8500.00. The capacity of the motor driven unit was 300,000 cubic feet per 24 hours, and of the gas engine driven unit 450,000 cubic feet.

In arriving at the labor cost only the salaries of the actual operators have been included. The motor driven plant requires one operator per eight-hour shift at $150.00 per month. The gas engine driven plant requires one operator and one oiler per eight-hour shift; the operator is paid $150.00 per month and the oiler $100.00 per month.

The repair cost was based on two per cent of the cost of the compressor equipment for the gas engine plant, and one per cent for the motor driven plant.

Reducing the above costs to the basis of 1000 cubic feet of gas or air compressed, the cost for electric operation is 7 cents while with gas engine operation it is 3.18 cents.

In the above figures, please note that the fuel bill in the gas engine plant is the largest item and has been charged at 25 cents per thousand. While there were some plants in the Seminole field paying this rate, in the majority of cases no charge was being made for the fuel, in fact, it was not even being metered. Deducting this item makes the actual cost 1.96 per thousand for the air gas. In the future it is safe to predict that there will not be the excessive and careless waste of gas as occurred in the Seminole field. The cost of the current was based on actual figures in the field, namely, $16.80 per unit. This is a very low figure. Estimating the power at 60 k. w., the charge per kilowatt would be 1.17 cents per kilowatt hour.

While it seems to be generally accepted that there is no question as to the considerable saving in operating costs, there seems to be quite a preference among some of the operators for electrically driven units to handle the flush production. Mr. Shaw has stated in his paper that he prefers the electrically driven unit owing to the flexibility and dependability at the early stage of the air gas lift operation. After the pressures decline to a low point and it is desired to opearte the wells by gas rather than air, he then prefers the gas engine driven compressor because of the considerably lower operating cost.

Where the compressor is driven by a 100 horsepower motor, it undoubtedly has greater flexibility in being able to operate at nearly normal suction pressure and compress to seven or eight hundred pounds or whatever is necessary to "kick" the well off. Under normal operating pressures, the gas engine is much more flexible as its speed may be controlled by the governor, while with the motor driven unit because of the constant-speed characteristic of the motor, it is not practicable to vary the speed. Mr. Shaw's expressed feeling of doubt as to the dependability of the gas engine has probably come from his experience in the Seminole eld. It should be kept in mind that the production departments of the large oil companies were required to install a large number of a new type of machine with little experience and along with this build up a new operating force. Naturally, through lack of training, some grief must have been experienced. In the past, the natural gasoline manufacturers went through this same experience but today there are hundreds of engines running on which an operating efficiency between 99 and 100 per cent over a year's time, it not considered unusual. There is also the unfortunate situation that because of the considerable size of several of the oil companies, the natural gasoline and production departments operate quite independently of each other. After the production departments become familiar with this type of machine, this phase of the situation will undoubtedly right itself.

With the direct gas engine driven plant, where troubles do occur, the operator in practically all cases can take care of the trouble without having to find a superior—while with the motor driven plant it is always necessary to hunt the electrician and quite often trouble in an electrically driven plant shuts down the whole system. Where trouble occurs with the direct gas engine driven unit, it is possible, by speeding up the other units, to help take the load, but with the electrically driven plant it is only possible to take up the load of the down unit by increasing the suction which in most cases is not possible.

Where both types of units are to be used for the air gas lift method, it would seem there must be considerable economic waste in switching from one type of unit to the other and in many cases there must, of necessity, be duplication of plants.

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the air gas ratio naturally increases so that even with the most efficient air lift method, the cost per barrel in many cases will run over that of operating on the beam. Mr. Shaw states in his article that they have pumped a 10-barrel well with 10,000 feet of gas. With electric operation this would be approximately 70 cents a barrel, with gas engine operation about 32 cents, which is considerably below the cost of operating on beam.

There is also a coming phase of the air-gas lift production which has been considered but has, as yet, had very little field trial. That is, the further recovery of oil in the Seminole field by re-pressuring the sand. One large operator has installed his plants with this in view. If these were to be operated by electricity, the cost would make economical production of oil out of the question.

Bulletin Notice

The University of California Press, Berkeley, California, has recently released an interesting bulletin under the title of "A Physical Study of the Mokelumne Pipe Line," by Lloyd T. Jones and Walter S. Weeks.

The bulletin represents a complete report of the authors on the calculation and measurement of stresses of the Mokelumne Pipe Line.

The line studied consists of 80 miles of steel pipe and the necessary amount of cement-lined tunnel to carry the water through the Berkeley Hills.

Inasmuch as the line is welded throughout, it is of unusual interest. At the time the project was conceived, the next largest acetylene welded line was but 30 inches in diameter and was less than 1000 feet long, according to the authors.

There seemed to be no inherent reson why the girth seams of a large steel pipe line should not be either electric welded or acetylene welded, the matter of cost and convenience being the determining factors.

Pipe used was 65 inches in dimaeter, with thickness ranging from thereeighths-inch to one-half-inch. Thickness and diameter were determined by hydraulic conditions.

Copies of the bulletin can be obtained from the University of California.

Due to an increase in the sales of various paints manufactured and sold by Hill-Hubbell and Company, especially those paints going to producers, transporters and refiners of petroleum, it has been necessary to quadruple manufacturing and sales facilities of the organization.

By January 1, 1928, Hill-Hubbell headquarters will be located at 160 Freemont Street, San Francisco. Present offices are at 115 Davis Street. R. H. Hubbell announces no additional branch offices at this time other than those at Los Angeles, Houston, New York, Seattle, Portland and Baltimore.

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Magnolia Runs Fall Off During November

Dallas, Texas—Declining production in the Greater Seminole district in Oklahoma was reflected by the sharp drop in daily average crude runs maintained during November by the Magnolia Pipe Line Company in Oklahoma, Texas, Arkansas, Louisiana and Kansas fields. Magnolia's runs from various fields during November averaged 106,535 barrels daily, as compared to 118,967 barrels daily average in October. This decrease of 12,432 barrels took place in Oklahoma fields, where Magnolia averaged 57,072 barrels daily during November, as compared to a daily average of 71,331 barrels during the previous month.

The Earlsboro-Wewoka district in Oklahoma supplied 1,006,183 barrels of high gravity oil to the Magnolia Pipe Line Company during November, as compared to 1,418,845 barrels total during October. This decline came from a general slump in production and royalty interests owned in the district by the Magnolia Petroleum Company, as well as a cut in outside crude purchases.

Common carrier crude business handled by the Magnolia Pipe Line Company is not included in the above figures, although current daily runs of outside oil to the Gulf Coast agregates 25,000 barrels from Arkansas, Oklahoma and Texas fields.

West Texas fields are to be drawn on by Magnolia in replacing declining production in the Oklahoma flush areas, and the initial movement of West Texas oil towards the Gulf Coast from Midland tank farm was started at 3:30 p.m., December 3, via an eight-inch line, which ties into the Mid-Continent trunk line system at De Leon, Texas. Magnolia plans to materially increase its steel storage facilities in West Texas early in 1928 to begin buying outside oil, and is also contemplating greater pipe line facilities, as 10,000 barrels of the daily capacity of the new West Texas line has been allotted to Atlantic Oil Producing Company.

Having a surplus of crude above the current requirements of its refineries at Beaumont, Corsicana, Fort Worth and Luling, Magnolia shipped 12 tankers, having a combined tonnage of 709,781 barrels of crude during November to Atlantic Coast refineries. Water shipments of refined oils during November dropped to a low level of 25,459,334 gallons, while tanker movement of fuel oil reached a record low mark in November, when only 2,018,256 gallons were dispatched from Beaumont to foreign countries and Atlantic and Gulf Coast points.

Total crude runs made by Magnolia Pipe Line Company, exclusive of common carrier business, from fields in Oklahoma, Texas, Arkansas, Louisiana and Kansas during October and November, 1927, follows:

Fields—	Totals October	Totals November
Wewoka-Earlsboro	1,418,845	1,006,183
Healdton	236,505	223,562
Hewitt-Graham	145,387	132,604
Cushing	140,483	128,980
Seminole	145,966	105,408
Yale	61,046	57,866
Duncan	54,826	49,447
Augusta (Kansas)	47,881	44,197
Walters-Beaver Creek	8,085	8,019
Burbank	120	85
Totals for Oklahoma and Kansas	2,259,144	1,756,351
Luling	388,882	382,736
Crane County	136,289	156,866
Panhandle	135,012	153,485
Electra	102,537	98,137
Burkburnett	80,797	78,189
Mirando District	78,769	75,916
Archer County	50,034	45,658
Lockhart-Lytton Springs	39,489	41,246
Mexia-Wortham	40,633	38,193
Howard-Mitchell Counties	38,065	34,500
Desdemona-Comanche	20,750	19,358
Glasscock County	.....	14,046
Corsicana-Powell	15,973	14,000
Ranger-Olden	12,010	10,477
Stephens County	11,375	9,520
Corsicana (Heavy)	9,745	8,972
Petrolia-Clay County	3,865	3,795
Panola County	1,443	1,348
Spindletop (Gulf Coast)	3,049	1,338
Thrall-Williamson County	1,118	1,233
Totals for Texas	1,171,835	1,189,013
Smackover	110,222	104,460
El Dorado	27,585	27,233
East El Dorado	1,786	1,817
Totals for Arkansas	139,593	133,510
Bull Bayou	43,282	46,141
Cotton Valley	33,388	34,634
Pine Island	38,018	34,083
Haynesville	2,719	2,308
Totals for Louisiana	117,407	117,166
Totals for five states	3,687,979	3,196,040

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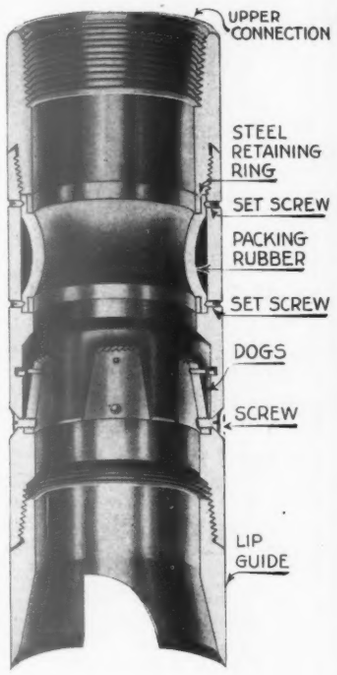
With Release Dogs and Forged Steel Guide



This tool embodies all the well known advantages of the GRAY OVERSHOT with Release Dogs. In addition, there is furnished as an integral part of the tool, a packer which simply and accurately packs between the collar to be caught and the walls of the overshot, allowing the operator to circulate to the bottom of and around the fish.

The GRAY POLICY is one that will never change . . . . QUALITY FIRST

GRAY TOOL COMPANY
HOUSTON, TEXAS.

PARKERSBURG
Rig Irons
Including Common, California and A. P. I. Standard
☐

PARKERSBURG
Steel Wheels
☐

PARKERSBURG
Steel Derricks and Steel Crown Blocks
☐

PARKERSBURG
All Steel Standard Rigs
☐

PARKERSBURG
Portable Drilling Machines Wood and All Steel
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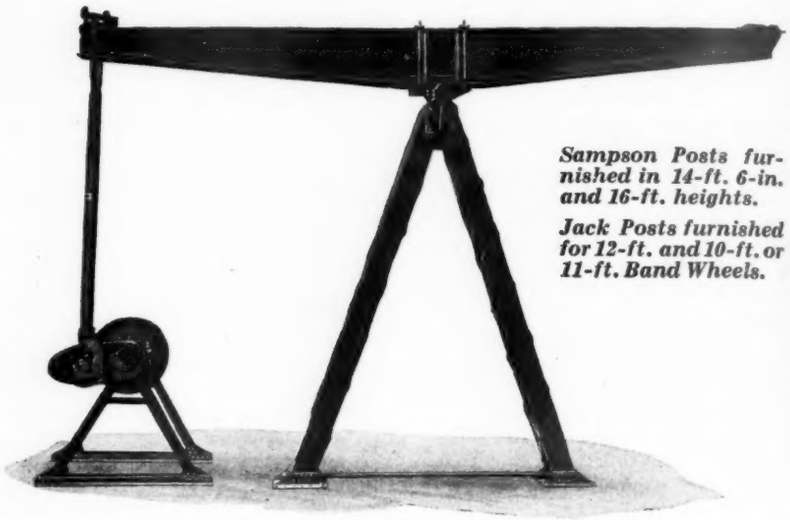
Chain Driven Sand Reels and Bailing Reels
☐

PARKERSBURG
Bolted Steel Tanks
☐

PARKERSBURG
Miscellaneous Drilling Equipment
☐

Check the equipment in which you are interested, tear out and return this page to us, and we will send complete information.



Sampson Posts furnished in 14-ft. 6-in. and 16-ft. heights.

Jack Posts furnished for 12-ft. and 10-ft. or 11-ft. Band Wheels.

Reduce operating expense with STEEL SAMPSON POSTS *and* JACK POSTS

PARKERSBURG "A" Frame type steel jack posts and sampson posts, set on concrete foundations, result in a permanent installation at low cost. This, because sills are eliminated.

Maintenance expense on these items is reduced to a minimum, due to the all-steel construction.

If moved to a new location, all material is salvable except anchor bolts in concrete foundations.

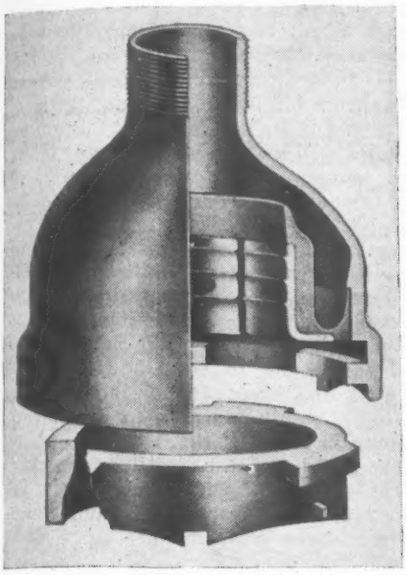
Parkersburg *All-Steel* Standard Rig Catalog (listed to the left) gives detailed specifications and will be sent on request.

The Parkersburg RIG & REEL COMPANY

Main Office and Works, Parkersburg, W. Va.

Sales Offices and Stocks Carried in Every Producing Field

NEW EQUIPMENT, CATALOGS, BULLETINS, BOOKS



LOOMIS PRESSURE SEAL HEAD AND BLOW-OUT PREVENTER

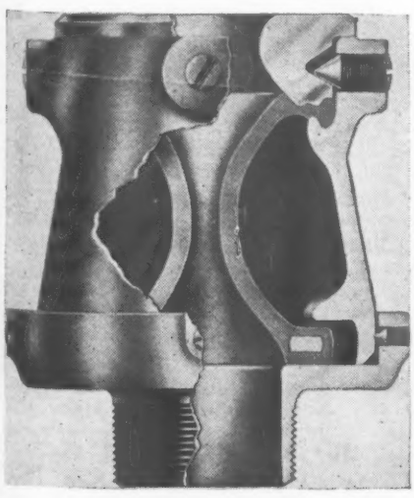
New Loomis Equipment

LOOMIS OIL WELL CONTROL COMPANY

The Loomis Oil Well Control Company, Long Beach, California, is putting on the market two new items of equipment of interest to producers: the Loomis pressure seal circulating head, and the Loomis safety rod head.

Pressure Seal Head

The pressure seal head was designed to perform two jobs, each equally well. It is a quick change circulating head and will work on several sizes of casing. For example a circulating head for 6¼ and 6⅝-inch casing, all weights, will require only one size of the pressure seal head. Action of the head is positive: as soon as the pressure is built up in the body, the rubber insert and slips are contracted around the collar and can only be taken off after the pressure is released. Then it is only necessary to lift the entire unit off.



LOOMIS SAFETY ROD HEAD

It is claimed that the head with a gate screwed on the top can be placed over the top of the collar while the well is blowing or before, and the pressure from the well itself will set the slips and the flow can be put either in the cellar, sump hole, or tank.

The head can be attached to the rotary hose on the derrick floor at the beginning of the job, and each connection may be made without breaking the union.

Loomis Rod Head

The Loomis rod head screws into the tubing head and is so constructed that it will strip clean all the rods as they are pulled from the well.

The rod head is made of cast steel with a rubber insert built in the shape of an hour glass, so that a pressure is kept on the rods, taking up any wear that comes on the inside of the rubber. Rubbers are easily and quickly changed and are made of a specially compounded heat and oil resisting rubber.

More information about both products will be supplied upon request to the company.

Master Motor-Grinder

MASTER ELECTRIC COMPANY

The Master Electric Company, Linden and Master Avenues, Dayton, Ohio, announces the Master Motor-Grinder, a combination grinding tool and motor.

The outfit has a pulley in place as a part of the unit. However, if it is desired to use a crown face paper pulley instead of the standard grooved pulley supplied with the outfit, it is possible to remove the grinding attachments quickly and easily with a screw driver. The outfit can be belted either permanently or temporarily to any other equipment for which a one-fourth split phase motor is suitable.

The unit will operate from an ordinary lamp socket.

The heart of the unit is a Master Motor, type SA, split phase. These motors have self-aligning, phosphor bronze bearings, and also splash-proof guards.

Additional information will be mailed by the company, on request.

Bulletin Notice

The Alexander Milburn Company, 1416-1428 W. Baltimore Street, Baltimore, Maryland, announces two new bulletins, one illustrating and describing Milburn Oil burners and pre-heaters, and the other Milburn acetylene generators.

Copies will be mailed on request.

MASTER MOTOR-GRINDER

"Oil and Gas"

Walter L. Summers

"Oil and Gas," by Walter L. Summers, is the title of a new book recently announced by the Vernon Law Book Company. The work is a treatise on the law of oil and gas.

Mr. Summers is a professor of law in the University of Illinois.

As is pointed out in the preface of the book, there is little available information on laws pertaining to a particular physical subject-matter pertaining to oil and gas, and the author had to blaze his own trail. Accordingly his task was to make all deductions of legal principles directly from a great mass of confusing and conflicting decisions. The deductions had to be classified and presented in an organized form, so as to make them readily available to those desiring to use them.

In this regard the author says: "It seemed that such work should logically begin with a discussion of the nature of the landowner's legal interest in oil and gas in situ. The policy upon which the courts act for or against a landowner respecting any distinguishable part of the total physical aggregate designated 'land' is determined by the physical and economic facts of that particular subject-matter. The legal interest of the landowner in respect to such physical subject-matter, whether it be air, water, coal, or oil, is determined by what the court, acting in the light of such policy, decides he may or may not legally do, or what others may or may not legally do, in respect to it. In other words, the aggregate of the landowner's legal relations in respect to oil and gas, as fixed by the decisions of the courts, determine the nature of his legal interest in respect to them.

"Following these premises, the first chapter states the physical facts of oil and gas as they have been deduced by scientific investigation and research, and such economic facts regarding them as are pertinent. In the next five chapters the landowner's legal relations respecting oil and gas, as deter-

BUY USED PIPE

And Save the Difference

75,000	f	2"	used line pipe	15,000 ft. 5-3/16"	used casing
75,000	ft	3"	used line pipe	15,000 ft. 6-5/8"	used casing
30,000	ft.	4"	used line pipe	5,000 ft. 8-1/4"	used casing
20,000	ft.	6"	used line pipe	5,000 ft. 10"	used casing
10,000	ft.	8"	used line pipe	1,000 ft. 12½"	used casing

Three complete strings Standard Drilling Tools.

150 tons 60 lb. No. 1 relaying rails.

We buy abandoned pipe lines and oil wells. If you have any to sell, communicate with us before you dispose of them.

BRANCH STORES

Wichita Falls, Holliday, Vernon, Breckenridge, Texas

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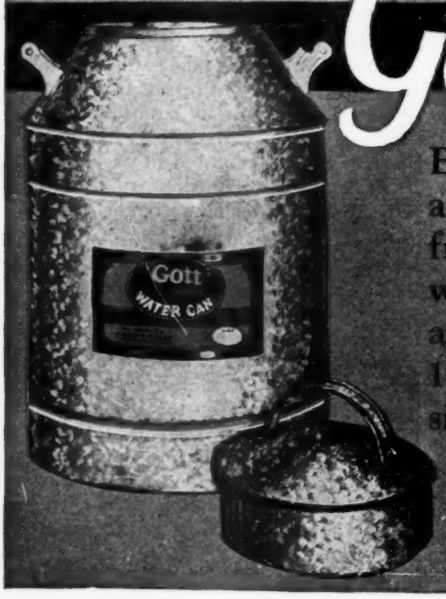

Built to last—you will always be assured of a fresh supply of pure water, when you have a GOTT. Made in 1½, 3, 5 and 10 gallon sizes. Order now from your supply store.

H. P. GOTT MFG. CO.
Winfield, Kansas

Jones Sucker Rods

have pleased for Thirty Years.

S·M·Jones Company,

TOLEDO·OHIO

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mined by the decisions of the courts, are discussed at length. Included in this discussion are the rights of the landowner, the violation by the acts of trespass and waste, and the legal and equitable remedies for their violation; the privileges of the landowner to take oil and gas by operations on his own lands, regardless of the fact that in so doing he may draw oil and gas from his neighbor's land; the landowner's common-law and statutory duties not to waste oil or gas or injure the common reservoir; the powers of the landowner to create separate interests in the oil and gas by deed, exception, and lease; and liabilities of the landowner to suffer the loss of his interest by adverse possession. In the seventh chapter these relations are summarized, and the aggregate thereof shown not to constitute the landowner the owner of oil and gas in situ, a result contrary to statements found in some of the decisions, which are based on the implied postulate that, since oil and gas are a part of the land, the landowner must own them in the same manner as he does solid minerals.

The next twelve chapters are devoted to a discussion of oil and gas leases. According to the author, the development of the modern lease to its present form has been an evolutionary process. The struggle has been to find a basic contract upon which profitable production can be had with fairness to both landowner and producer. In the various chapters on leases, their formation, validity, construction, duration, assignment, and termination are discussed in detail.

Several chapters are ilkewise devoted to a study of the development of various clauses of the lease, and the various forms of leases, with particular attention to the legal relations of the lessor and the lessee as created by express and implied conditions and covenants, and the respective remedies of the lessor and the lessee for their breach.

Such subjects as mining partnerships, mechanics' liens, tort liability of oil and gas operators, taxation of oil and gas interests, and contracts for drilling oil and gas wells, are discussed in a few chapters.

Production of oil and gas from public lands is treated in one chapter.

The work consists of a single volume, neatly bound. Copies may be obtained from The Gulf Publishing Company, P. O. Box 1307, Houston, Texas. Price $15.00.

The Rollway Bearing Company, Inc., of Syracuse, New York, announces the opening of a sales office at 614 Empire Building, Pittsburgh. Samuel Farrell who has been associated with the company for a number of years is in charge of the office. The company makes radial and thrust bearings.

BAROID

on cable tool jobs

USUALLY "mud-fluid" is associated with rotary drilling operations. Yet a Baroid fluid was used successfully on a cable tool job in Winfield, Kansas, to shut off gas pressures. This fluid is heavy enough to seal off the trouble-making gases, yet not too heavy to interfere with the dropping action of the tools.

Baroid is a specially processed form of barytes which stays in suspension indefinitely. It is absolutely inert, non-electrostatic and non-electrolytic. Its sliming qualities protect equipment in drilling through the hardest formations.

Stocks of Baroid are carried by:

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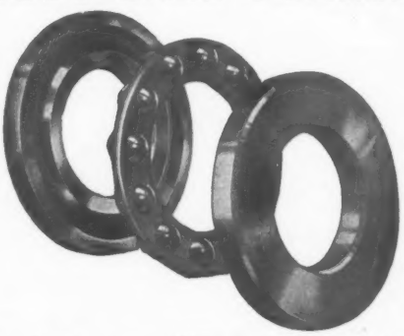
AETNA

THRUST BALL BEARINGS



Aetna Bearings are 100% inspected. Before an Aetna Thust Ball Bearing reaches you, it has been through eight major operations and eight separate inspections. If you could see the thoroughness of these eight rigid inspections, you would understand why Aetna Bearings are held in such high esteem by men in the oil field. The life of any mechanism —and its performance—depends mainly upon smooth, frictionless operation. Bearings made with Aetna precision cannot help but give unqualified service.

Write for information about any kind of thrust bearing for any machine. We are at your service.

Aetna Ball Bearing Mfg. Co.
2745 High St., Chicago, Ill.

THE "UNITED" POLISH ROD SOCKET GRIP

forms the connection between the polish rod of the sucker rod string and the pumping jack, or beam, by gripping the polish rod in such manner that the jack or beam can impart to the polish rod the reciprocating pumping motion.

The grip consists of a one-piece steel spider, bored taper and a one-piece three-jawed slip of hardened steel, machined outside to conform to the taper bore of the spider. The slip engages the polish rod by means of wickers machined in the bore. These wickers are of fine pitch so that they will engage the smooth surface of the polish rod positively but will not mar the polish rods to any great extent.

The gripping capacity of the United Polish Rod Socket Grip is greater than the strength of any polish rod that can be used with it. The construction is such that the greater the load carried by the polish and sucker rods, the tighter the grip engages the polish rod.

THE UNITED POLISH ROD SWIVEL BEARING

is placed between the grip and the member that supports the load and permits the free rotation of a string of sucker rods in either direction. This eliminates the tendency of the sucker rods to unscrew and provides what might be termed a full floating effect. Of very simple design, consisting only of two collars with ball bearings interposed between.

Manufacturers of RIG IRONS and STEEL EQUIPMENT, STEEL TANKS, DRILLING MACHINES, SWAB BARRELS

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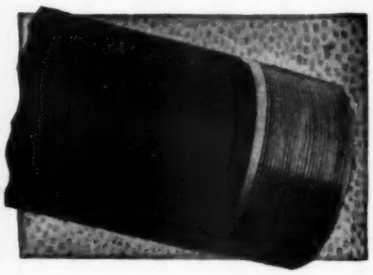

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A Great Strength For Maximum Safety

Fabricated by the Mannesmann-Pilger process, which produces a thoroughly homogeneous, seamless pipe of super-resistance to terrific collapsing stresses at the greatest depths and in all formations, "Astco" Seamless Steel Casing provides the highest protection and the utmost safety in petroleum production.

Write for the conclusive proof of Astco superiority and proven strength in every service.

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STRENGTH RESISTANCE ASTCO DURABILITY

(Trade Mark Reg.)

SQUEAKS FROM THE BULL WHEEL

EGG-NOG TIME

Egg-nog time is comin',
Just a few days ahead.
The stills are deftly runnin'
Corn that's not for bread.

Hens are loudly cacklin',
Cocks crowin' in their pens;
Fires in hearths a cracklin'
Turks gobblin' in the fen.

Frost is on the punkin',
Porkers are on the rack,
Bootleggers at the door a thumpin',
With liquor in a sack.

Yes, agg-nog time's a-comin',
The flowin' bowl is near,
Santa's bells are hummin',
Good cheer for another year.

—Gasco Tab.

"Why are you scratching yourself, Doris?"

"Cause I'm the only one that knows where I itch."

Mrs. Carney rushed into her living room. "Oh, Walter," she cried, as she panted for breath, "I dropped my diamond ring off my finger and can't find it anywhere."

"It's all right, Olive," said Walter, "I came across it in my trousers pocket."—Magnolia Oil News.

"Dis is Meester Kapovitz, I want you should send me over twelf two by tens right avay quick."

"All right, sir—How long do you want them?"

"Oo, I vant them a long time, I going to put them under the 'ouse."

Ephraim Walker Johnson, colored, had by due process of law been hanged in Florida. His funeral was being preached by a Kentucky pastor, who had known Ephraim since childhood.

"Brethren," said the preacher, "you all have come to pay your last respects to the deceased, Brother Johnson. This brother was bred and born in Kentucky, where he grew to manhood; he later gravitated to Tennessee, then to Alabama, then to Georgia, and, last to Florida, where he met, wed and killed his wife. This is the crime he has now paid for. Brethren and sisters, this deceased brother is now in hell, and the only consolation that I can offer the sorrowing relatives is—that he went there, gradually. — Southwestern Shoe Findings.

Alma—Would you marry for money?

Tillie—Well, I hope Cupid aims at me with a Pierce-Arrow.

"I've finished with that girl. She insulted me."

"How?"

"She asked me if I danced."

"What's insulting about that?"

"I was dancing with her when she asked me."

We think this man gets the cup as the stingiest fellow alive.

He woke up one morning and discovered that his wife, lying beside him, had died during the night.

As he awoke, the clattering of the cook in the kitchen below caught his attention. Jumping up, he rushed to the door and yelled to her, "Mary, cook just one egg this morning."

A little Jewish boy was standing on a street corner, making the welkin ring with great sobs and exclamations of distress. About him there soon gathered a large crowd of would-be sympathizers.

"What is the matter, my little man?" asked one of the crowd. "Are you lost?"

The boy ceased his wailing. "I am," he answered. "I'm lost. Won't you all take me to Goldblatt's Cutrate Tailoring Shop, at 234 Rosen Street, which has just opened up a marvelous sacrifice sale on men's pants and suits at 50 per cent below cost?"

"He's a bootlegger's assistant, Your Honor."

"What's the charge?"

"Thriving while under the influence of intoxicating liquors."

Wife—I've put your shirt on the clothes-horse, Jim.

Jim—What odds did you get.

Several college professors were discussing what they would do after they retired. What would they be fit for, was the question.

"Well," said one of them, "I don't know that I'd be fit for anything, but I know what I'd like to do. I'd like to be superintendent of an orphan asylum, so that I would never get any letters from parents."

"I've a much better ambition," exclaimed another. "I want to be warden of a penitentiary. The alumni never come back to visit."

Gushing Lady—Oh, Mr. Jones, we are collecting funds to help the starving heathen. May I put your name on the succor list?

The questions in the evening newspaper were being read out by the eldest daughter and the other members of the family were doing their best to answer them. "Who was it said: 'Never say die?'" she propounded.

"Methuselah," shouted 7-year-old Robert, confidently.

"That phrenologist is wonderful. As soon as he put his hands on my head he told me my business was very dull."

"He probably felt the depression."

Ike—Does your father pay much for coal?

Mike—No, we live across the alley from the power plant and I yell names at the firemen.

The Ludlow

You Don't Care About Semi-Steel

—It's Economical Valve Service You Want

IN recent years some parties ill-advised, first caused the trade to think they were making semi-steel valves. *Semi-steel*—what is it? Nothing more than a high tensile cast iron. Ludlow valves have for years had this characteristic. In other words, had we so desired, we could have deceived our trade in calling our iron body, bronze mounted valves semi-steel. The tensile strength of our iron and bronze is extremely high. *Ludlow valves have a high safety factor.*

LUDLOW VALVES are the most economical —Based on length of service rendered.

THE LUDLOW VALVE MFG. CO.
TROY, NEW YORK

Branch Offices

KANSAS CITY, MO. CHICAGO, ILL.
BOSTON, MASS. PITTSBURGH, PA.

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Harrisburg Pipe & Pipe Bending Co., of Texas, Inc., Houston, Texas
Peden Iron & Steel Company, Shreveport, Louisiana
Henderson Iron Works, Shreveport, Louisiana.

Double Gate Parallel Seat Valve

Emphatic Savings

,,Guaranteed

No-Co-Ro Drops and Seats Give AMAZINGLY Long Service

Never, we honestly believe, has there been such a radical improvement of equipment in the oil well pumping equipment! The costly pulling of wells at semi-monthly, even weekly intervals has been drastically reduced. No-Co-Ro Drops and Seats have given almost unbelievable performance under the most trying circumstances, because they are designed for such service. The loose, bobbing action of the ball and seat has been replaced by the dependable, rhythmic performance of the No-Co-Ro Drop and Seat. Records of satisfied customers the world over show a Drop and Seat to outwear and out-perform from 5 to 36 balls and seats.

50% Reduction in Pulling Costs Guaranteed!

The next time you pull a well, replace with a Drop and Seat. If it does not show you an actual saving of 50% we will refund your money. And your saving should be closer to 80%. Remember, no "strings" to this offer—it's the bona fide guarantee of a company known wherever oil is produced for its square dealings.

Our Fort Worth warehouse, with a complete line of pumping equipment, is at your service. 12 to 24 hour deliveries throughout the Mid-Continent and Gulf Coast Fields.

NORRIS BROTHERS, Inc.
Robinson, Illinois, and Fort Worth, Texas.

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